10 BEST BUYS IN MOTORCYCLING

MOTORCYCLIST

MOTORCYCLIST

$1.25
In Canada
$1.50

PETERSEN PUBLISHING COMPANY

APRIL 1980

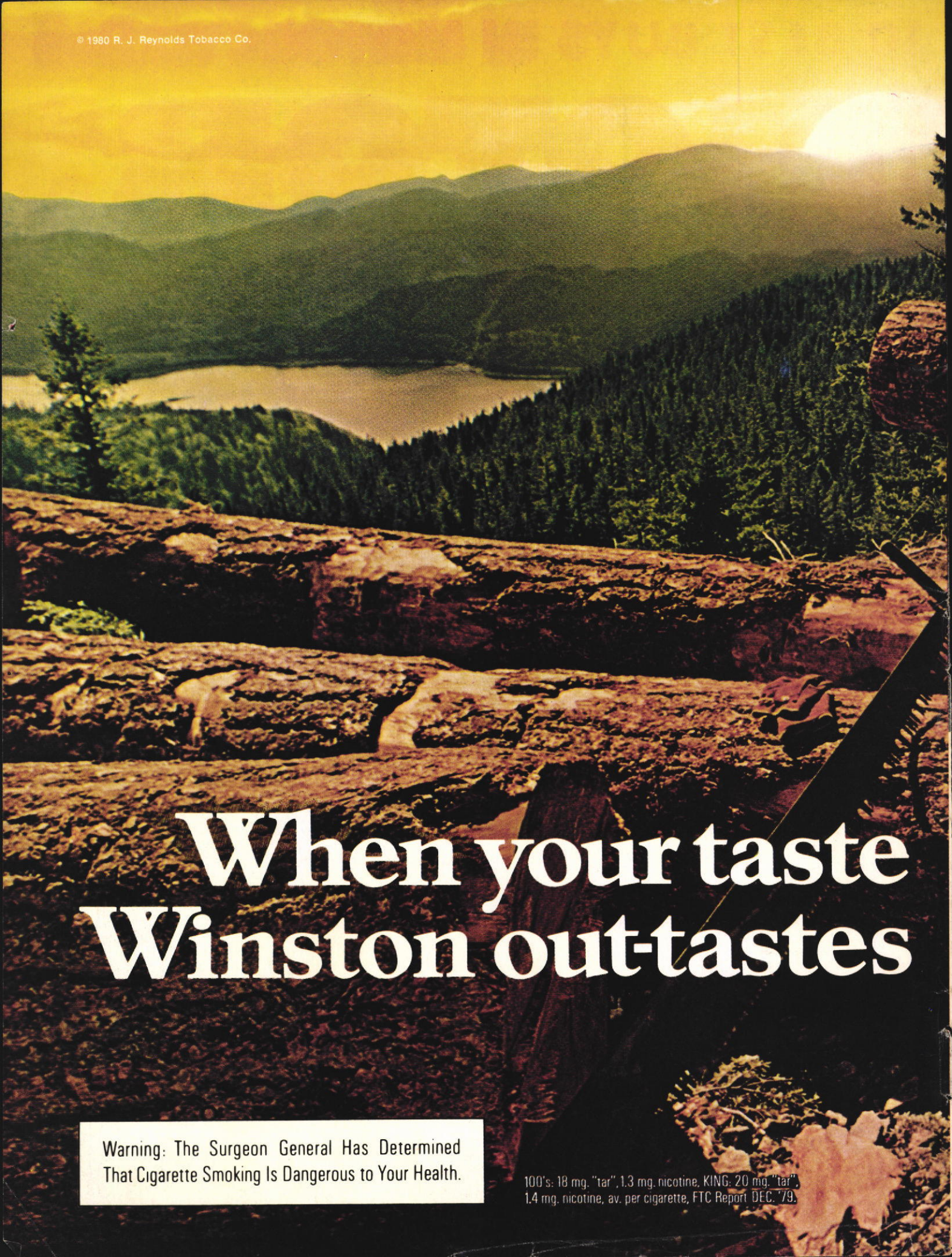
NEW 16-VALVE SUZUKI 750s:
Chopper & Charger

YAMAHA IT425
Endurocrosser

How To:
WHEEL BEARINGS

0 71486 02179 04

Bimota/Suzuki Kit Bike
Prices On The '80 Models



When your taste Winston out-tastes

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

100's: 18 mg. "tar", 1.3 mg. nicotine. KING: 20 mg. "tar", 1.4 mg. nicotine, av. per cigarette, FTC Report DEC. '79.


grows up,
them all.
Only Winston's Sun-Rich™ Blend
of the choicest, richest tobaccos
tastes this full and satisfying.
Winston after Winston.
KING SIZE
Winston
FILTER·CIGARETTES
FULL·RICH
TOBACCO FLAVOR
Winston
FILTERS
100's
Regular and 100's

Quality design makes a difference to serious roadriders. They realize the middle of nowhere is no place to be with a bargain fairing.

That's why more Windjammers ride the road today than any other touring fairing.

The Windjammer Difference. It Sets You Apart.

With its proven blend of function and durability, Windjammer® has earned rider respect where it counts most—*on the road.*

Its sleek styling is timeless. And matched with today's most advanced aerodynamic design, Windjammer delivers unequaled rider comfort and protection.

Add such standard features as Leading Edge Lights, locking storage compartment, headlight adjuster, gold accent striping—and Windjammer is as road-smart as it is road-tough.

Our hardware provides easy, road-secure frame mounting. And naturally, the famous quality Vetter finish is available color-matched to the leading motorcycles.

Take a Windjammer test ride today at your local dealer.

And then you'll understand.

With Windjammer, one of the nicest parts about arriving at your destination is the ride back home.

For more information write: Vetter Corp., Rantoul, Illinois 61866.

Vetter *THE FINEST. ALWAYS WILL BE.*

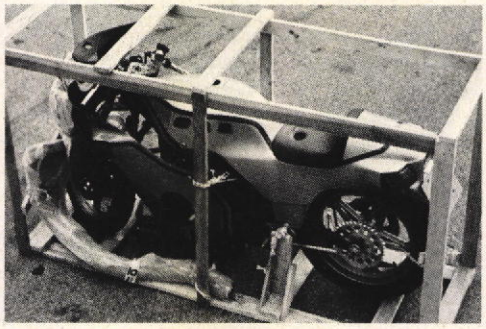
Windjammer

MIC AMA

MOTOR CYCLIST

APRIL 1980, PUBLISHED MONTHLY 994

30



58

70

92

SPECIAL BUYING SECTION

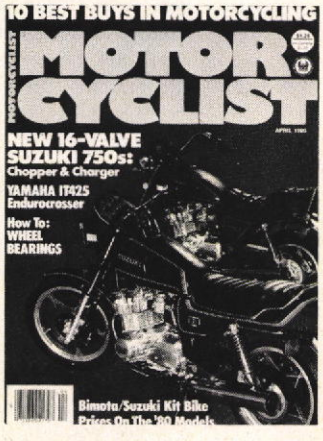
TESTS

FEATURES

SPORT

DEPARTMENTS

COVER



Which one of these new Suzuki 750s will sell the most—the standard model in blue or the chopped version in red? Which one do you like? We'll tell you which one we like on page 14. Photo by Pat Brollier.

MOTORCYCLIST, © (ISSN 0027-2205)

CONTRIBUTIONS: Should be mailed to 8490 Sunset Blvd., Los Angeles, California 90069. They must be accompanied by return postage and we assume no responsibility for loss or damage thereto. Any material accepted is subject to such revision as is necessary in our sole discretion to meet the requirements of this publication. Upon acceptance, payment will be made at our current rate, which covers the author's and/or contributor's right, title and interest in and to the material mailed including but not limited to photos, drawings, charts, and designs, which shall be considered as text. The act of mailing a manuscript and/or material shall constitute an express warranty by the contributor that the material is original and in no way an infringement upon the rights of others.

CHANGE OF ADDRESS: Six weeks notice is required to change a subscriber's address. Please give both old and new address and label. Mail to P.O. Box 3296, Los Angeles, CA 90028.

POSTMASTER: Please send form 3579 to Motorcyclist, P.O. Box 3296, Los Angeles, CA 90028

EDITORIAL

1.1-MILLION UNITS

Last year was great for motorcycle sales. The final figures reveal that 1.1-million new machines were sold, marking the first time since 1974 that the market has absorbed more than 1 million units. This represents an estimated dollar volume of $1.75 billion, up nearly 22 percent over 1978, all at a time when everyone thought the motorcycle industry had peaked and was coasting along in a mature market with sales of 850,000 units year after year.

Why were sales up so much? Well the obvious parallel between the last million-selling year, 1974, and 1979 was that both were gas-line years. People suddenly faced with a 40-minute wait for fuel turned to motorcycles which not only got better mileage, but also could usually slip to the front of the line and fill-up without waiting. The bikes with the biggest sales gain were 400s and middleweight—entry level machines—indicating that newer riders likely bent on beating the gas crisis were the buyers.

Many analysts believe that these people were on the brink anyway and last April's gas lines gave them a convenient excuse to buy. I agree. The public will not flock to motorcycling en masse until gas is (1) rationed, or (2) reaches $4 per gallon. Prices below $4 simply won't play a significant role in controlling most people's gasoline habits. Look at Europe where gas costs $2.50 to $3 in many places right now. The autobahns are still jammed at rush hour, campgrounds are already booked solid for summer and people are still taking Sunday drives. In America, I feel that the necessity of getting to work, shopping for staples and seeking escape through recreation will prevail over any gas price up to $4. But then the middle-class will begin to be sorely pinched and many thousands will likely turn to motorcycles. And in the event of rationing, many hundreds of thousands will be shopping for bikes. Gasoline will provide the market expansion the Japanese have been seeking for years.

But is the industry ready for an influx of big numbers?

What will the new buyer find when he turns to motorcycling? Right now the industry has four rather serious problems which might drive the new customer away:

(1) Our shopper is probably a bit afraid of bikes, yet there's no **well known** and **readily available** place he can count on to teach him to ride. What about the MSF safety course and various university programs? Well, last Saturday I went to four large Los Angeles dealers posing as a novice and asked where I could learn to ride. Three dealers said the best plan was to have a friend teach me and the other offered a short course himself, if I could come back on a weekday morning when "things were slow." Those answers aren't very encouraging to a prospective buyer with a few doubts. Perhaps the industry should start a training program, or at least fund a publication for dealers which lists existing courses.

(2) Our new buyer will be shocked at the size of his insurance premium. Why don't the Big Five unite to form their own insurance company, or convince one of the majors such as Hartford or Prudential to specialize in motorcycles and therefore command the volume necessary to reduce premiums. With several million existing motorcyclists paying premiums, and the potential of up to a million more each year, a company could surely make the rates drop.

(3) Our man is probably aware of the high motorcycle theft rate. Imagine what he'll think when the dealer offers him a chain or a bolt-on alarm and says, "Good luck." It would seem that some sort of sophisticated mechanical and electronic anti-theft technology is due at the factory level.

(4) Certainly the new shopper has noticed a sign in the dealership listing flat-rate prices: 15, 18 maybe even 25 dollars an hour for labor. The customer realizes he can save a lot of money (to buy gas) if he maintains his bike himself. But where can he go for a simple maintenance course? The dealer likely won't tell him. The professional mechanic's schools don't want him. Not many night schools teach motorcycle repair. Perhaps the Big Four should consider their own.

These unanswered questions will bother the prospective new motorcyclist, perhaps enough to drive him away even in the face of gas lines. Only the manufacturers, with the immense cash flow represented by 1.1-million unit sales per year, can begin building programs which will eliminate deterrents to new buyers. They will be expensive, and may not provide an immediate return on equity, but the payback will be there in a few years when the windfall from insufficient gasoline supplies comes barreling in.

Meanwhile, these measures will help the present crop of enthusiasts who've made motorcycling rich today.

—Dale Boller

STAFF

Publisher **Richard P. Lague**
Editor **Dale Boller**
Managing Editor **Gloria Scher**
Senior Editor **Rich Cox**
Feature Editor **C.D. Bohon**
Feature Editor **Art Friedman**
Associate Editor **Jeff Karr**
Assistant Editor **Ken Vreeke**
Editorial Assistant **Pamela F. Herman**
Adm. Assistant **Irma Babagian Hutton**

Contributors:
Joe Scalzo
D.J.K. Wilkinson
Joe Minton

Sr. Account Manager **Bob Weggeland**
Eastern Adv. Sales Manager **Bob Petit**
Western Adv. Sales **Kim Haskell**

PETERSEN PUBLISHING CO

R.E. Petersen Chairman of the Board
F.R. Waingrow President
Robert E. Brown Sr. Vice President
Dick Day Sr. Vice President
Jim P. Walsh Sr. V.P., Nat'l. Adv. Dir.
Robert MacLeod Vice President, Publisher
Thomas J. Siatos Vice President, Publisher
Philip E. Trimbach Vice President, Finance
William Porter V.P., Circulation Director
James J. Krenek V.P., Manufacturing
Leo D. LaRew Treasurer/Ass't. Secretary
Dick Watson Controller
Lou Abbott Director, Production
John Carrington Dir., Book Sls. and Marketing
Maria Cox Director, Data Processing
Bob D'Olivo Director, Photography
Lawrence Freeman Dir., Subscription Sls.
Nigel P. Heaton Dir., Circ. Adm. and Systems
Al Isaacs Director, Graphics
Carol Johnson Director, Adv. Adm.
Don McGlathery Director, Research
Jack Thompson Assistant Director, Circulation

SALES OFFICES

LOS ANGELES Ralph Panico, Western Advertising Director, 8490 Sunset Boulevard, Los Angeles, CA 90069 (213) 657-5100 **NEW YORK** James J. Rainsford, Eastern Advertising Director, Howard S. Plissner Associate New York Manager, 437 Madison Avenue, New York, NY 10022 (212) 935-9150 **DETROIT** Edward McLaughlin, Detroit Advertising Director, 333 West Fort Street Building, Suite 1800, Detroit, MI 48226 (313) 964-6680 **CHICAGO** Dennis M. Banner, Chicago Advertising Director, John Hancock Center, 875 N. Michigan Avenue, Suite 3131, Chicago, IL 60611 (312) 222-1920 **CLEVELAND** Dewey F. Patterson, Branch Manager, Bond Court Building, 1300 East 9th Street, Suite 1001, Cleveland, OH 44114 (216) 696-7900 **ATLANTA** Dale Naef, Branch Manager, Four Piedmont Center, Suite 601, Atlanta, GA 30305 (404) 231-4004 **DALLAS** Jeff Young, Branch Manager, 800 West Airport Freeway, Suite 201, Irving, TX 75061 (214) 579-0454

PETERSEN ACTION GROUP

Ralph Panico, Western Advertising Director, Los Angeles **James J. Rainsford,** Eastern Advertising Director, New York **Howard S. Plissner** Associate Manager, New York **Edward McLaughlin,** Detroit Advertising Director **Dennis M. Banner,** Chicago Advertising Director **Dewey F. Patterson,** Cleveland **Dale Naef,** Atlanta **Jeff Young,** Dallas

GOOD NEWS FOR BIKERS.

The Sears DieHard® Motorcycle battery.
Its name tells you what to expect.
Cold cranking power.
Reserve capacity.
Vibration resistance.
And long storage life.
The motorcycle DieHard can deliver on all of them.
Otherwise it wouldn't be a DieHard.
At Sears Tire and Auto Centers.
Or through the Catalog.

Sears
Where America shops for Value

HOTLINE

VANCE & HINES FLY THE COOP

After serving nearly a decade as R.C. Engineering's "dynamic duo," Terry Vance and Byron Hines have decided to leave the nest egg in search of greener pastures. Yep, they've teamed-up once again to form their own company called Vance & Hines Racing. They've already acquired a huge 5000 square-foot building located just a stone's throw from U.S. Suzuki Motor Corporation (rather convenient wouldn't you say?) and Terry says they're going to concentrate on building strictly racing engines—sorry, no street bikes. They'll be porting some heads, possibly offering a dyno-testing facility to the public later on, and you can expect to see a whole new line of Vance & Hines go-fast goodies, mostly for Suzukis and Kawasakis. They've retained their Suzuki sponsorship and will be taking up the business of dragracing with their Suzuki Pro-Stocker and Top-Fueler as usual.

PRO STOCK CHAMP JOINS RUSS COLLINS

R.C. Engineering owner Russ Collins has hired current Pro Stock drag racing champ Bob Carpenter to head the company's R&D department and race with R.C. colors. According to Collins the signing of Carpenter was coincidental to Terry Vance and Byron Hines leaving R.C. after nine years and four Pro Stock titles. "I've been recruiting Carpenter for a year," said Collins. "Here's a guy who worked alone back East without factory help and built engines that gave everybody fits. I've wanted him for a long time." Carpenter will move to California.

GIANT H-D SHOW SLATED FOR L.A.

More than 400 custom and vintage motorcycles are expected for Harley-Davidson's "Artistry in Iron" show at the Los Angeles Sports Arena July 11-12. Held in conjunction with the Superbowl of Motocross, the show will feature other motorcycle art in addition to complete machines—gas tanks, wood carving, metal sculpture, paintings and photography. The show's overall winner will be awarded his choice of any motorcycle Harley-Davidson makes. While admission is free, the company will encourage donations to Muscular Dystrophy through the sale of raffle tickets good for a chance to win a Sportster. For details contact Wally Petersen, Harley-Davidson Motor Co., Box 653, Milwaukee, WI 53201.

BMW SALES UP

After a slow year in 1978, new management at BMW in Germany engineered a quick and impressive turnaround in 1979. Dollar volume reached nearly $150 million on sales of 32,000 bikes worldwide, a jump of 47 percent over 1978. America, which absorbed 5500 units last year, is BMW's biggest market outside Germany.

NEW SUZUKIS

As we go to press, we're awaiting the release of several new Suzukis. The GS250, a four-stroke twin (perhaps with eight valves) will give the growing commuter market a fresh face, and the GN400, a street bike based on the engine from SP/DR400 dirt singles, reflects increased interest in simple, economical thumpers. Fuel-efficiency is the obvious reason for two new 50s, although we don't know if they are mopeds or nopeds yet. Suzuki hasn't forgotten dirt riders either. A new line, the RS series is designed to fall somewhere between the DS playbikes and the RM motocrossers, presumably sporting RM chassis with milder engines for serious play riders.

KAWASAKI'S SHOW STEALERS

At the Anaheim Dealer Show, the first of four trade shows early each year, Kawasaki grabbed the spotlight. The belt-drive KZ440 LTD and the fuel-injected KZ1000 LTD/Z-1 Classic mentioned in this column last month (and discussed in "Brave New Motorcycling World" elsewhere in this issue) were there to dazzle. There was also a KZ550 cafe bike, complete with a "Kawasaki by Kerker" exhaust system and a fairing. Chopper types were stopped by the KZ650 LTD with its exceptionally long fork and a crowd formed around the 200cc off-road three-wheeler, which represents a challenge to Honda's ATC and Yamaha's new dune tricycle.

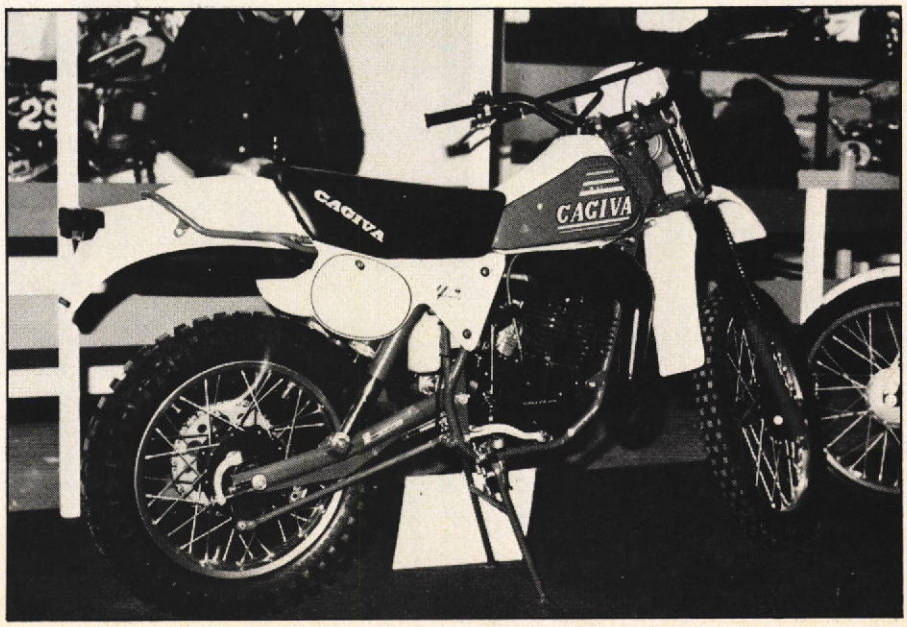
THUMPTHING NEW

Honda debuted a 250cc single-cylinder street bike at its British dealer meeting. Designated the CB250RS, the bike uses the same basic engine as the XL250S with two separate exhaust systems, one for each exhaust port. This gives Honda two 250cc street bikes in the UK market (there's also a Hawk-style twin), but none in the U.S.

WHAT EVER HAPPENED TO AERMACCHI?

When Harley-Davidson divested their Italian subsidiary a few years back, the fate of the factory was uncertain. Well, a group of Italians have a new marque, Cagiva, and several of its models appeared at the recent Dirt Bike Show in England. This 250 motocrosser has what looks like the old Harley engine with a radial head, electronic ignition, 36mm Dell'Orto carb, Marzocchi forks and Corte Cosso shocks. Pirelli tires complete the all-Italian package. Other models include an enduro version, a 350 trials bike and a shorttracker. No plans for U.S. export were announced.

PHOTOGRAPHY: NORMAN PULLIN



WHEELIE KING STORMS ENGLAND

When 500 GP motocross champ Graham Noyce saw American Wheelie King Doug Domokos do his thing, he was so impressed that he paid Doug's plane fare to England to perform at the recent Dirt Bike Show in Bristol. Doug dazzled the show crowd (estimated at 20,000 for two days) on a Kawasaki KLX250 four-stroke as they stood in line for tickets and later as he monowheeled in the aisles between the show booths.

THREE NEW RACING MOVIES TO DEBUT

On TV watch for **The Young Matadors,** covering the 1979 Grand National Season and Jay Springsteen. The 30-minute Peter Silver production has great footage of sideways slidin' on dirt ovals, plus insight into Springsteen the man.

Take It To The Limit, a feature-length movie in the On Any Sunday mold, will hit theaters in the top 35 U.S. markets between now and August. The film is Mecca for any enthusiast who loves to watch magic men on magic motorcycles. Incredible sequences feature top stars and their bikes—Barry Sheene, Russ Collins, Mick Andrews, Scott Autrey, Mike Hailwood and, of course, Kenny Roberts. One of the film's highlights is rare footage of Kenny stealing the Indy Mile aboard the wild TZ750 flat tracker which was banned shortly thereafter. Original music by Foreigner, Arlo Guthrie, Jean Luc Ponty and others make the Peter Starr production a double treat. Don't miss it.

Backers for **On Any Sunday II** have reportedly invested $2 million in the long-awaited sequel to everybody's favorite motorcycle movie. An early summer opening is planned in major U.S. theaters, but no exact date has been set. Don Shoemaker, one of the original cameramen in 1970's version, spearheaded On Any Sunday II and followed Bob Hannah, Bruce Penhall, Kenny Roberts and Brad Lackey all over the world to capture their heroics.

RIDING MOTORCYCLES MAY BE HAZARDOUS TO YOUR HEALTH

The Consumer Product Safety Commission (CPSC) is planning to recommend warning labels be glued on mini-bikes and small off-road motorcycles advising parents and riders that the devices are health hazards. Anybody who doesn't realize that anything that can overcome your stationary inertia (motorcycles, roller skates, cakes of soap in bathtubs . . .) and get you moving puts you in potential jeopardy probably can't read anyway, but what the hell, the plan will keep the paper work shuffling at CPSC and a few (a few?) bureaucrats on the payroll. And isn't that what democracy is all about?

Discover Camel Lights satisfaction.

The Camel World of satisfaction comes to low tar smoking.

This is where it all started. Camel quality, now in a rich tasting Camel blend for smooth, low tar smoking. Camel Lights brings the solution to taste in low tar.

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

LIGHTS: 10 mg. "tar", 0.8 mg. nicotine, LIGHTS 100's: 13 mg. "tar", 1.0 mg. nicotine, av. per cigarette by FTC method.

LETTERS

TEN YEARS AFTER

I enjoyed your "Ten Years After" series, but in January's "Best Accessories Invented in the Seventies" you must have overlooked the Applewarmer and similar devices. For riding in cold weather, nothing beats the Applewarmer for simplicity and effectiveness.

I might add that, under your category "Technology We Need in the 1980s," my 1970 BMW 60/5 came equipped with many of the features you long for, including a six-gallon gas tank for a range of over 300 miles; effective braking in the rain (drum brakes and Continental tires); tapered-roller swingarm pivots; and no problem with accurate rear wheel alignment.

BMW has known for a long time how to provide what is really required. Mine has gone 127,000 miles with very little mechanical work and few "surprises."

Fred Tausch, Jr.
Lexington, MA

Your two-part article in the December and January issues, "Ten Years After," was the best and most comprehensive put out by any motorcycle magazine. However, and inevitably, it was less than perfect. First, and least, a picture of the Munch Mammoth would have been great. There are a lot of us out there who remember the beast but quite a few who do not. To view that monster would round out any bike knowledge. Second, and more important, an honorable mention to the motorcycle book of the decade should go to The Lost Traveler by Steve Wilson. Are you familiar with it? If not, check out your local bookshop in the sci-fi section. It is a must reading.

Rizal B. Minon
New York, NY

I read your Ten Years After article about the five worst bikes of the decade. The fourth one on the list was the Honda CB500T.

My girlfriend and I bought a CB500T on May 13, 1977. The bike was two years old when we bought it and had no miles on it.

The only thing we have done to it, other than change oil, is to buy a new chain after 6000 miles. The bike has gone 6310 miles and the engine has never had a wrench on it. It has the original spark plugs, air filters and sprockets. The performance is great, it has power and great cruising range—over 250 miles on a tankful. I can get 62 miles to the gallon with just myself on the bike and 55 with my girlfriend and I on it. I have walked away from, going uphill, a CB500-4 that my brother owned.

The CB500T I have is the best bike I've had yet.

Larry Ward
Hastings, MN

I see you're still getting mileage out of the old phrases condemning English motorcycles as oil leakers, electron losers, and the parts-man's dream. Having made a living—and a good one—for the past twelve years fixing English bikes I feel qualified to state that most Lucas Intermittent Electrons lost their charge due to someone who couldn't find an electron with two hands and was trying to trick-out or chop a machine. Some of the best tricks were wires clamped under highway pegs or sissy bars, king/queen seats shorting out battery terminals or mismatched terminals on hi-rise bars.

As for the trail of parts not being tolerated by a more sophisticated breed of rider wanting car-type reliability; if nothing ever fell off or ever went wrong there would be no need for a repair shop in a dealership. But the truth is that the shop is as important to the dealership as the sales floor, even for cars.

Your Ten Years After story on the demise of the British industry left us with unwanted explanations of bumbling management, obstreperous workers, etc., etc. Styles change, tastes change, conditions change, who is on top will change. But you guys writing editorials keep coming down on English bikes like a high priest performing an exorcism. Believe me, they're dead already. Want to see the action again? Let's watch the American Automotive Industry get through their upcoming crunch.

Harold Shull
Amarillo, TX

85-MPH LAMENT

Am seriously wondering who in the bureaucracy so ardently took valuable time and wasted taxpayer's money to have the bike manufacturers install 85 mile-per-hour speedometers? As if the 55 mile-an-hour speed limit wasn't enough.

It had to be some 'do-gooder' or a group of the rascals who are bent on slowly but eventually putting us in their control. That kind of crud is going on in other countries as one well knows. This 85-mile-per "gimmick" has been injected as a sort of "psychologically" obvious move to "quiet down" the motoring public. The laughable part is that any dodo with a 2+2=4 education can simply figure out his speed by relating to the tach and in any gear as well. By the way, where were the manufacturers all the time this was in the works? We've enough dumb laws now but this 85 mile-an-hour injection really tells me that one thing will lead to another . . .

By the way, I have ridden since 1933 and now have a '79 XS Eleven Special.

Art Armijo
Carson, CA

THE WAY IT USED TO BE

Enclosed is a check for a subscription to your magazine. I have been riding since 1951 and still love the sport, but I think it's less fun these days with all the government interference. When I started riding, a rider would never pass another rider without a wave of the hand and passing another biker who had broken down would rarely happen.

No lights on in the daytime, no twice-yearly inspection, no 85-mph speedos, $4 a year for tags, period, and away we'd go.

It is truly said, "The government that governs least governs best."

Bob Connery
Philadelphia, PA

THE 85-MPH GAS GAUGE

From the article on the Honda CB750F Super Sport in the October issue, I read my wife the bit about 1980 speedometers being limited to 85 mph. She came up with an equally brilliant notion, one that surely qualifies her for high position in the NHTSA. In order to save gas, fuel gauges should read only from half-full to full. Thus, when the tank is less than half-full, you will ride less because you won't know how much gas remains.

In the immortal words of Mark Twain, Will Rogers, Richard Nixon—take your pick, just be thankful that you are not getting as much government as you are paying for.

Chapman Burk
El Cerrito, CA

Readers' opinions are invited for this column. Unfortunately, no personal replies can be made to letters. Motorcyclist will publish as many letters and responses as space permits. Mail letters to LETTERS, Motorcyclist Magazine, 8490 Sunset Blvd., Los Angeles, CA 90069.

Take the Twin advantage: mileage plus performance.

You've probably heard that one has to sacrifice high mileage for high performance.

Or vice versa.

And if you believe it you haven't heard about the Conti Twins.

They are made in Germany — where an absence of speed limits on the autobahn and an abundance of wet, winding, country roads combine to create one of the toughest testing grounds in the world.

At the same time riders report getting 10,000 miles plus on our K112 rear Twin and 20,000 miles and more on our RB2 front Twin.

Which really doesn't surprise us — high mileage was one of our aims when we designed this uniquely engineered tire system. High safety was another.

The rear tire is built to transmit the brute power of today's superbikes to the road. The front tire is built to handle the tremendous braking forces of twin disc brakes and provide precise directional control.

All this is aimed at giving you the twin advantage of performance and mileage.

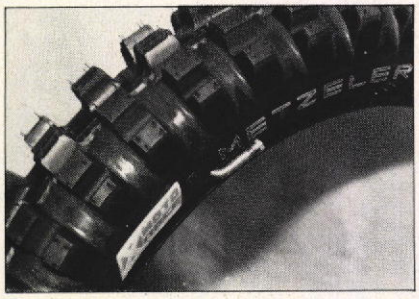
For it's this advantage that has made the Conti Twins the fastest growing tire system in America in only a few short years.

Continental

Suggested Mfg. Retail Price: $41.34 – $66.68 H-rated tube type + FET

ACCESSORY SHOP

How many times have you lost pressure in your rear tire and found nothing but a hole where your valve stem used to be? In the past even a minimal amount of rotational movement of the tire on the rim resulted in a severed valve stem. But the moto-meisters at **METZELER** have put an end to all that by introducing a revolutionary new con-

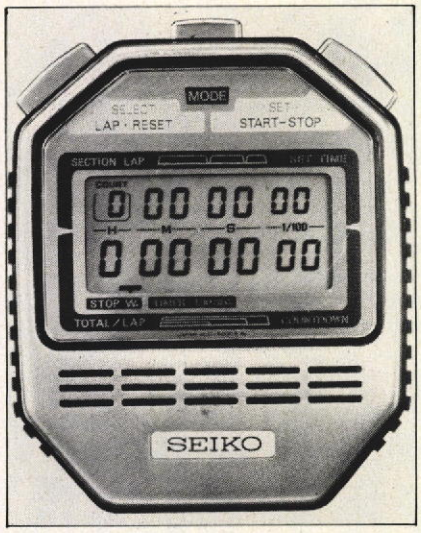


cept that positions the stem laterally on the tire's sidewall. It aims in the opposite direction of wheel rotation, and both tire and tube move as one unit in case of any slippage. It comes in size 4.50-18 and is available in two different styles: one with the stem exiting on the left and one on the right so it's always opposite the chain and aimed in the proper rotational direction. The tire and tube goes for $69 from your Metzeler dealer.

ESPRIT has designed a warm winter glove that does more than just keep your hands from freezing during the numbing winter months. They've added a cuff to the extra-long guantlet that keeps cold air and rain from seeping through to your hands. A zippered coin pouch in the guantlet does away with

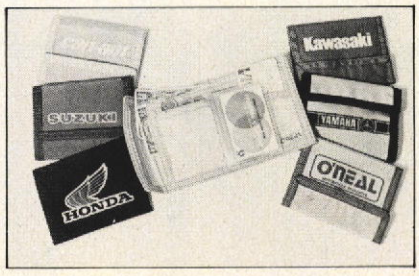
the traditional strip-act encountered in digging for small change and a watch flap on the left glove provides you with time-at-a-glance viewing. There's even a chamois material over the fingers for wiping moisture from face shields. The 100 percent cowhide Navigator glove is lined with warm tricot insulation and is available from most accessory dealers for $39.95 or contact Esprit, Dept. MC, 1511 Alum Creek Drive, Columbus, OH 43209.

Those Oriental masterminds of timekeeping have really outdone themselves with this one. In the traditional **SEIKO** fashion, this hand-held LC Digital quartz stopwatch does everything but dress you in the morning. In the stopwatch mode, the upper row displays lap times up to 10 hours: in hours, minutes, seconds, and 1/100ths of a second. The lower row shows total elapsed time right down to 1/100ths of a second. A quick stab at another button changes the stopwatch mode to an



interval timer, with alarm. It can be set from one second to 10 hours and the alarm will also buzz at pre-set intervals. The watch is housed in a stainless steel casing and has durable serrated plastic sides for easy handling. It also features Seiko's exclusive "Hardlex" mar-resistant crystal, battery-life indicator and comes complete with carrying cord. Ask for model GJA05 ($150) wherever Seiko products are sold.

JIM O'NEAL DISTRIBUTING has introduced a whole new line of the popular nylon/Velcro wallets. They are available in a variety of team colors with matching logos screened to one side. Inside you'll find an easily accessible billfold pocket that partially folds out, a Velcro-secured change pocket, a clear plastic credit card holder and three other card-sized pockets. They also have an exclusive "street" version of the wallet featuring a black and gold edition of each team logo. They can be found at most

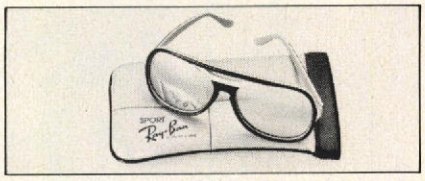


dealers for $7.50, but just in case they're sold out, you can send $7.50 plus $1 postage direct to Jim O'Neal Distributing, Dept. MC, 9555 Owensmouth Ave., Chatsworth, CA 91311.

KAWASAKI introduces what they cleverly refer to as their "Vee Neck Sweater." It is unisex in design; that means it fits everyone although we've formed our own preferences. It's made of "virgin" orlon acrylic. The graphic design is woven-in and highlighted in navy

blue and green. The sweater itself is white with a light blue tone. The cuffs and neck are ribbed for a snug fit and outlined in blue. Sizes range from XS to XL. Find it at your Kawasaki dealer for $19.95.

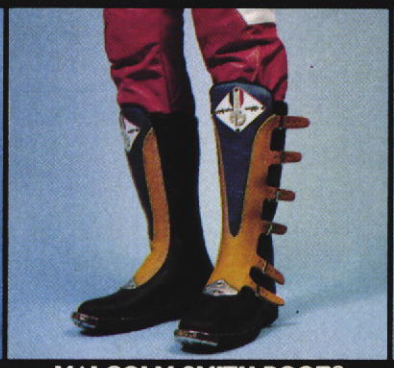
These **SPORT RAY-BAN** sunglasses are designed to give you maximum protection from overhead and reflective glare whether it's a clear sunny day or overcast. They feature double-gradient AmberMatic Mirror lenses that change color and density in response to light



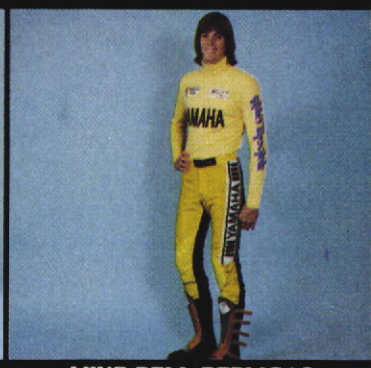
and temperature. The mirror becomes thinner and less dense towards the center to cut glare from above and below so you get maximum contrast under all conditions. These sturdy plastic-framed specs made by Bausch and Lomb retail for $48 at better department stores.

TANK TOOL BAGS
The convenient one!

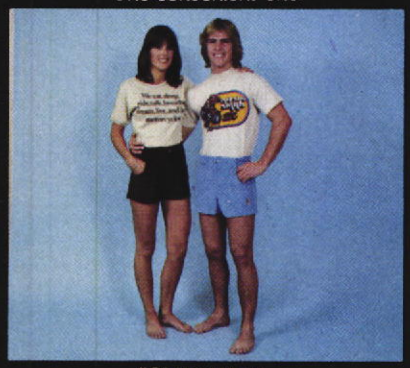
TEAM JERSEYS
Cottons, nylons and turtlenecks.



MALCOLM SMITH BOOTS
Adult and child sizes.



MIKE BELL REPLICAS
Pants, jerseys and gloves.

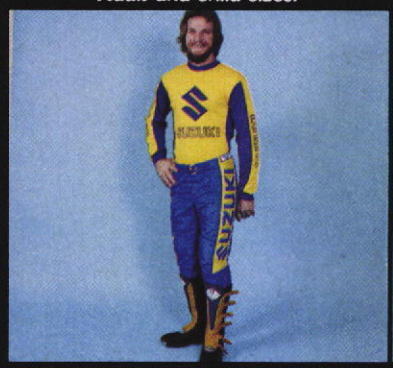


"SMITTIES"
Corduroy shorts in five colors.

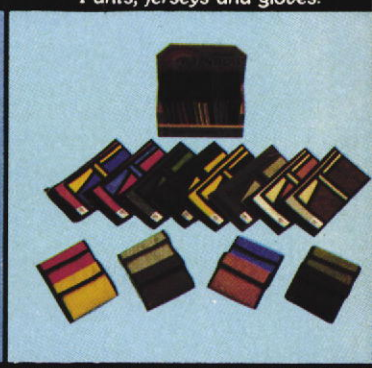
malcolm smith

GOLD MEDAL PRODUCTS

HAPPY NEW GEAR



ALL NYLON TEAM MX PANTS
Suzuki, Honda and Yamaha teams.



ORIGINAL RAINBOW WALLETS
First, and still the finest!

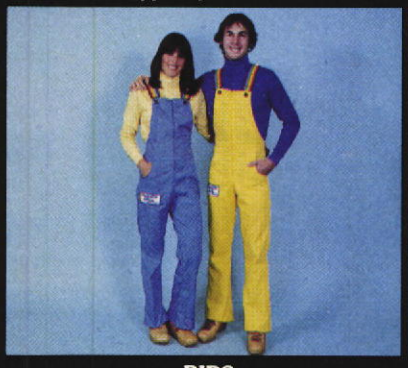
TEAM HATS
Support your team!

SPORTSHIRTS
Choose from many varieties.

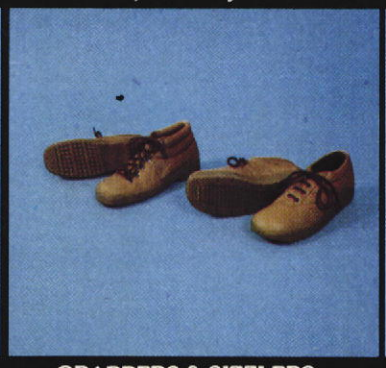
SEE YOUR LOCAL DEALER
OR
Send $3.00 for our 1980 catalog to:
MALCOLM SMITH MC
7563 Indiana
Riverside, CA 92504

WHERE QUALITY COMES FIRST!

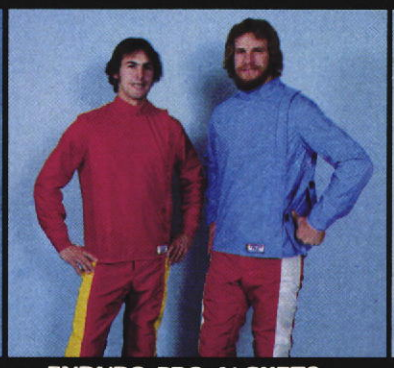
THE MASQUE
A great face warmer!



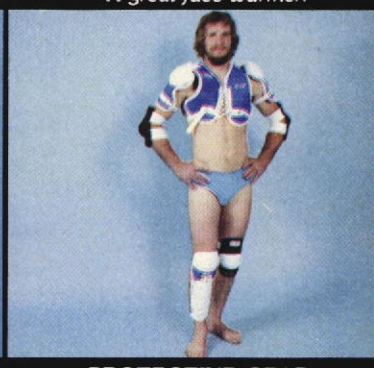
BIBS
Sportswear for everyone!



GRABBERS & SIZZLERS
Soft, padded leather shoes.

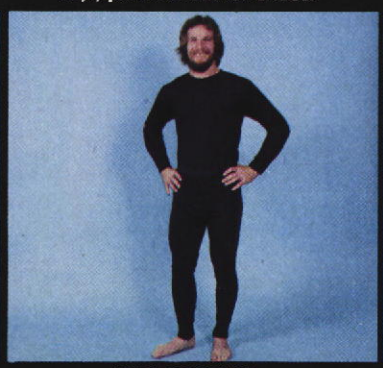


ENDURO PRO JACKETS
Our unique GORTEX material.



PROTECTIVE GEAR
Because you're not a rhinoceros.

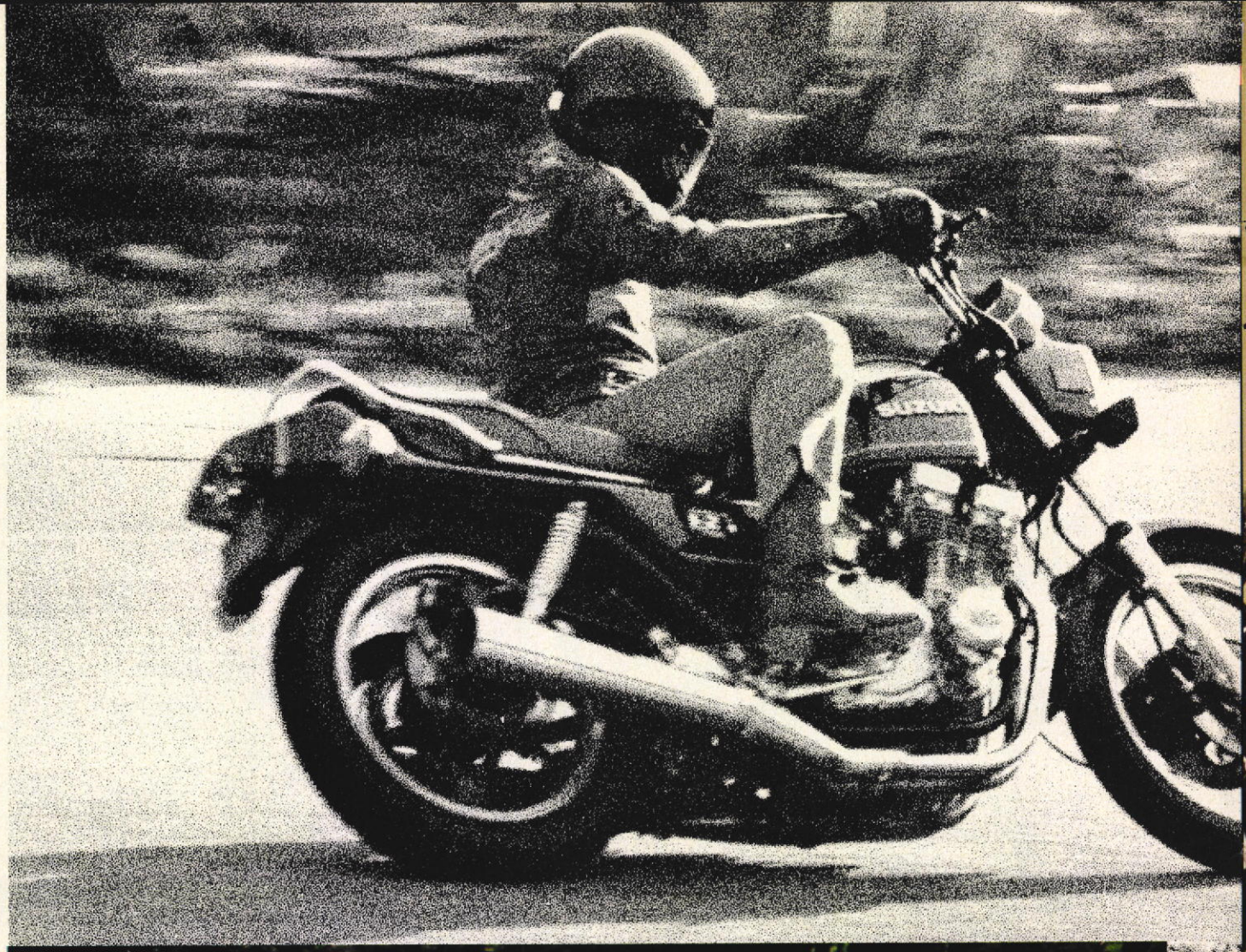
LEATHER FANNY PACKS
For the discriminating rider.



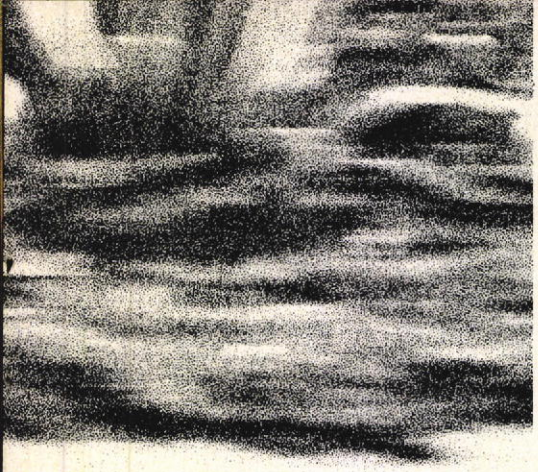
MOTOSKINS
Insulated undies keep you warm!

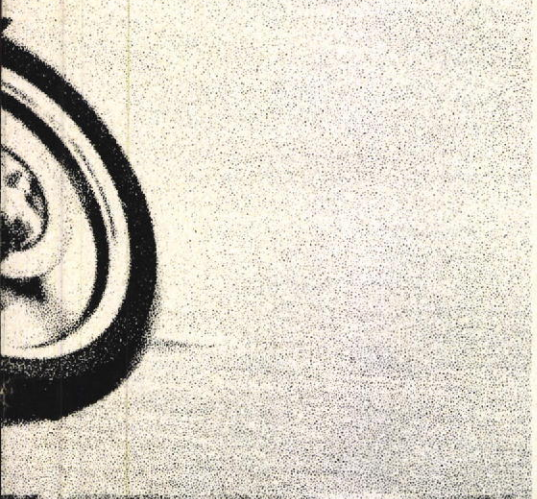
GOLD MEDAL VESTS
The classy ones!

MALCOLM SMITH GOGGLES
Designed for comfort.




SUZUKI





SUZUKI GS750E

Abandoning a perfectly good eight-valve 750, Suzuki made a raft of changes and came up with a 16-valver with simplified maintenance, a new look and much less cornering clearance.

PHOTOGRAPHY: DALE BOLLER, ART FRIEDMAN, KEN VREEKE, JOHN GATES

Suzuki's original GS750 lasted just three years. It was respected and feared by the competition. It was fast, handled well, toured well and held up terrifically. In no way had it begun to age, yet all of a sudden it has been replaced by a new, totally redesigned machine bearing the same designation. What is this new GS750? A stronger challenger to the swift, precise Honda CB750F? A slightly smaller version of the immensely powerful, ultra-trick Suzuki GS1100E?

At first glance the new 16-valve GS750E does appear to be a direct challenger to the Honda CB750, and it is. The GS shares not only the same displacement category but a similar DOHC, four-valve-per-cylinder, four-cylinder engine as well. The Suzuki's lines indicate the same sports/touring orientation as the Honda 750F and the two perform very similarly. Although there seems to be a Universal Japanese 750 developing here, there are significant differences between CB and GS.

It's also possible to view the GS750E as a down-sized version of the Suzuki GS1100E, the missile we test-flew last month in company with Honda's CBX six. Both the GS1100 and the GS750 are new from the ground up this year. They share virtually identical styling and the same basic engine design with one important exception. The 1100 has the roller bearing crankshaft employed in most previous Suzukis, but this 750 is one of the first Suzukis to come with a plain-bearing crank. A closer look shows certain detail accouterments fitted to the 1100 which have been left off the GS750. The smaller four doesn't have the 1100's adjustable shock damping, aluminum swingarm, special warning light panel on the dash, self-canceling turnsignals or adjustable front fork. Although it has a leading-axle Kayaba fork like the 1100's, the GS750 has smaller fork tubes (35mm instead of 37mm), no rebound damping adjustment, no spring preload feature and isn't fitted with air caps. This mild cost-cutting program doesn't leave the bike looking or feeling stripped; it still boasts cast wheels, triple discs, digital gear indicator, a modern dash with a fuel gauge, dual-bulb taillight, rectangular H-4 headlight and electronic ignition. However, Suzuki whittled the price down to $2799, $900 less than the GS1100E, $50 less than the Honda and only $30 more than last year's eight-valve GS750.

Like the 1100 engine, the 747cc engine has Suzuki's patented Twin Swirl Combustion Chamber (TSCC) design. This system uses a flat-top piston (to prevent the piston crown from interfering with the flow of mixture gases), steep valve angles and a very shallow combustion chamber to keep the compression ratio high. The

combustion chamber is shaped to promote and accelerate the normal (to a four-valve combustion chamber) twin swirls of incoming mixture during intake and compression. This exposes the maximum possible amount of mixture to the centrally located spark plug, thereby permitting quick and thorough combustion. Suzuki claims that this increases power above the levels possible in other four-valve designs and sends less unburnt mixture out the exhaust.

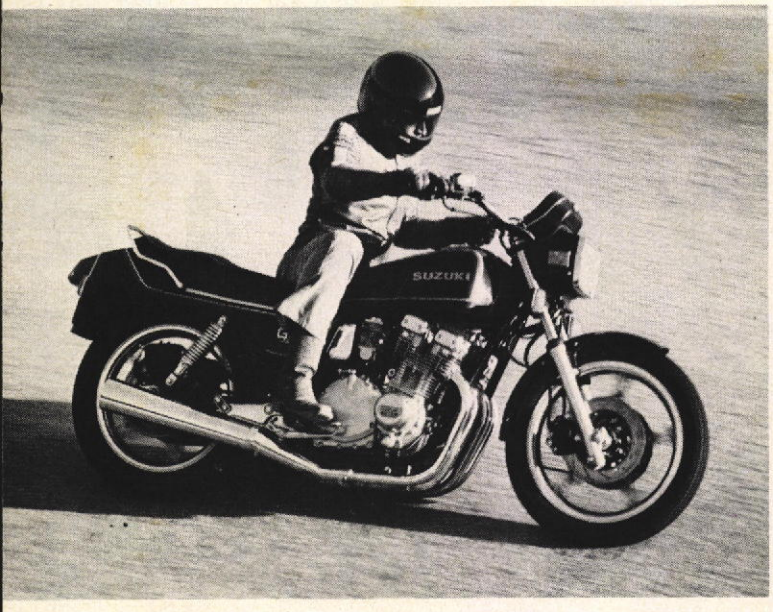
We can't vouch for the thoroughness of combustion, but Suzuki's GS750 with its TSCC design demonstrated no particular power advantage over the Honda CB750F with its "Pentroof" four-valve combustion chambers. The 552-pound Suzuki turned a 12.51-second quarter-mile, while the 543-pound Honda went the distance in 12.46 seconds.

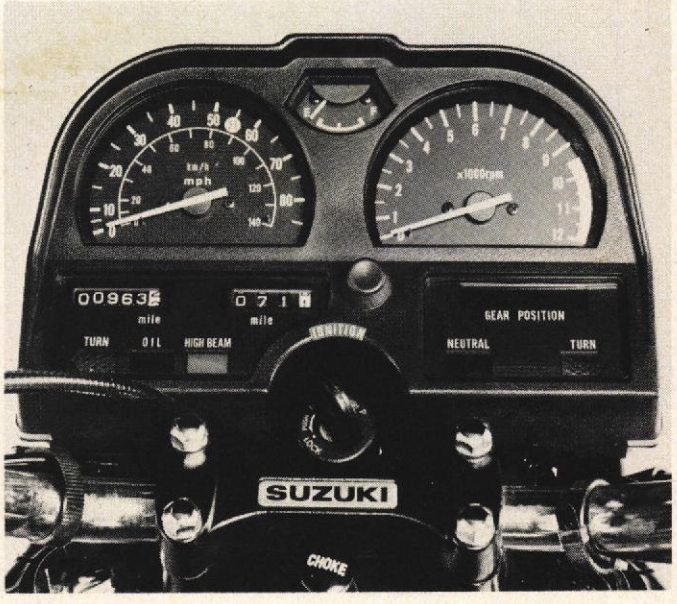
Like all other 1980 GS-series motorcycles and most other street bikes the GS750 has constant-velocity carburetors, in this case with 32mm venturis (6.0mm bigger than the slide-needle instruments used on the old GS750). CV carbs have become popular as a method of dealing with the EPA-mandated lean fuel mixtures. The CVs lessen the hesitation associated with lean mixtures during warm-up because the vacuum-operated throttle slides don't open until the engine is ready for more throttle. This also permits the use of larger carbs without sacrificing mid-range power and throttle response. There's just one problem with CV carburetors; they respond abruptly and make the bike lurch unless the throttle setting is changed smoothly and gradually. The GS750 is a little worse than average in this last respect. The uneven throttle response combined with a bit of drivetrain lash causes some awkwardness when opening the throttle in low-gear corners or in stop-and-go traffic. Some of the abruptness might be eliminated by using an accelerator pump as some other companies have, but that would also drop the GS750's mileage below our 41.3 mpg.

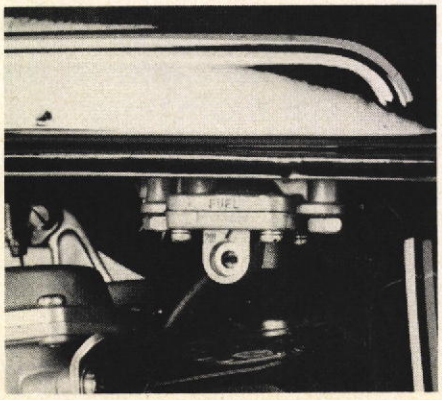
Something we noticed on the GS1100 which showed up again on the 750 was a weak spot in the powerband just off idle. The engine would bog if we tried to pull away from a stop with a minimum of throttle. We never actually stalled the bike, thanks to a light, progressive clutch. We adjusted for this flat spot by using just a little more throttle than normal in easy, slow starts. The GS750 pulled strongly through the rest of its powerband and shifted positively but not especially smoothly. Neutral was occasionally elusive and required a careful touch to locate.

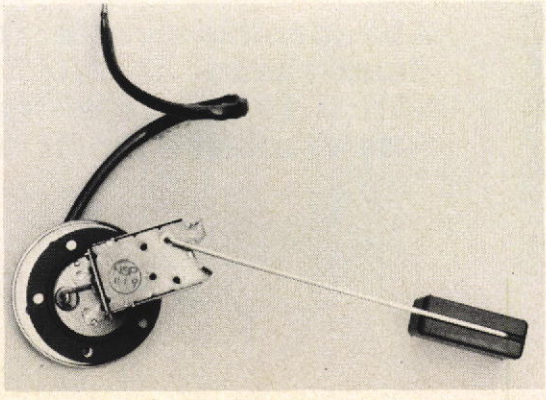
Plain-bearing crankshafts like the one used in the GS750 are one piece, unlike the roller-bearing cranks used in most other Suzukis which are assembled by pressing the shafts and flywheels together. The advantage of one-piece cranks (which are by far the more common type) is that they can't shift as roller cranks sometimes do under pressure, causing vibration. The GS750 was noticeably smoother than the GS1100, especially during acceleration and at high rpm. It may have nothing to do with crankshaft type, but this 750 was particularly smooth.

Smoothness is just one of the qualities which will endear the new GS750E to tourers. The riding position and handlebar shape are comfortable too. The only shortcoming is the slightly firm seat, which may gnaw at you a little before you've used up the tank's 200-mile range. The suspension is definitely touring oriented with generous wheel travel and cushy springing to give a plush ride under all conditions except with a passenger, when the shocks sometimes bottom. This year's new GS



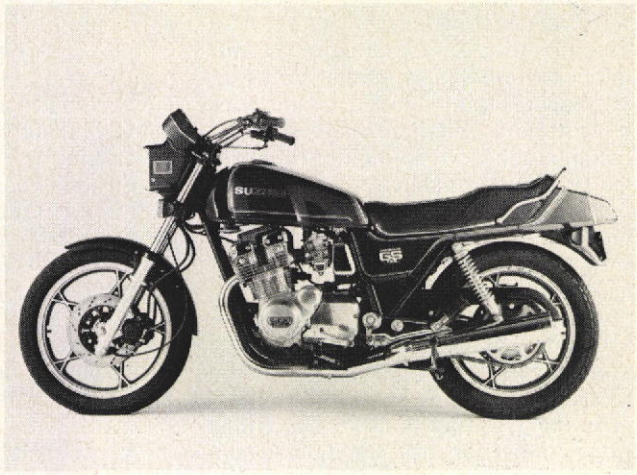


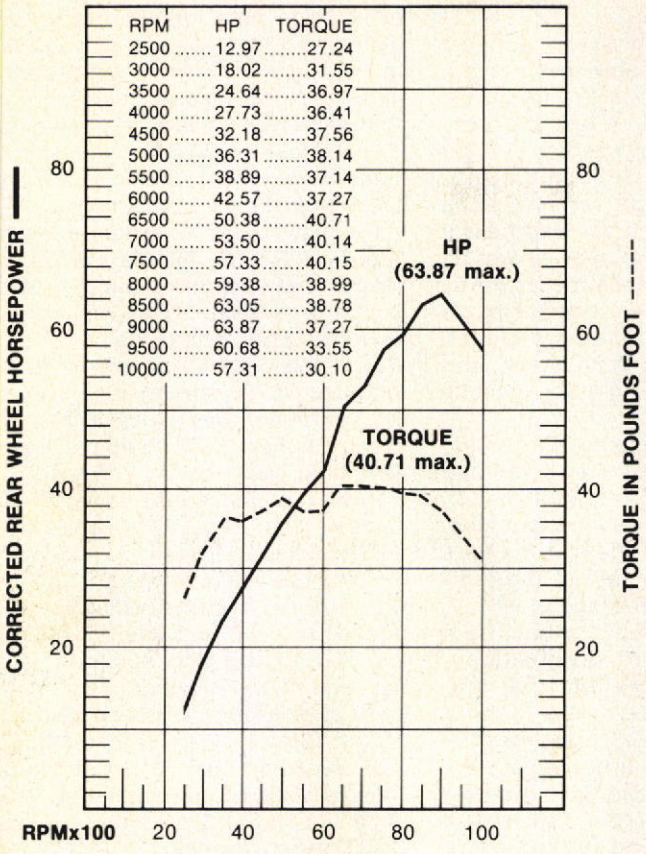


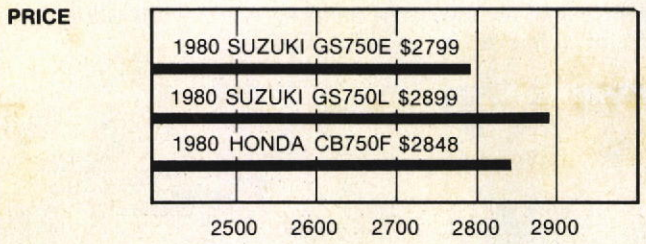


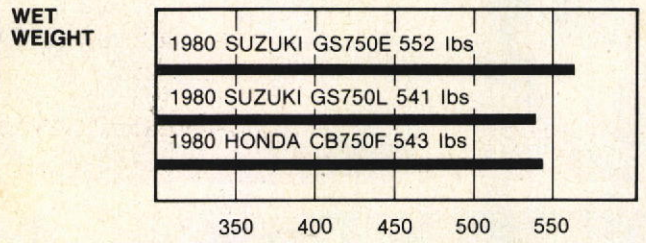
Like some other new Suzukis, the GS750 relies on its fuel gauge (above) to warn of low fuel levels. There is no longer a reserve system or even a petcock (far left). The fuel gauge gets its information from a sending unit (near left) inside the tank. As the float on the end of the long stalk changes position with fuel level, it changes the resistance in the electronic box at the other end of the stalk. The float doesn't start moving until a few quarts are used and bottoms out before the gas tank is completely drained of fuel.

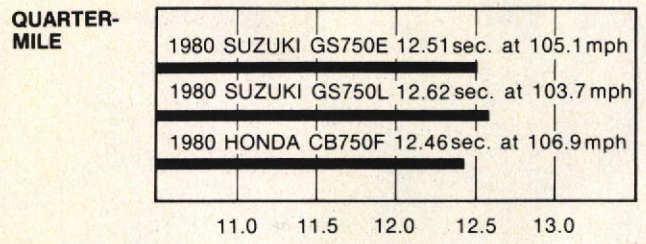
SUZUKI GS750E

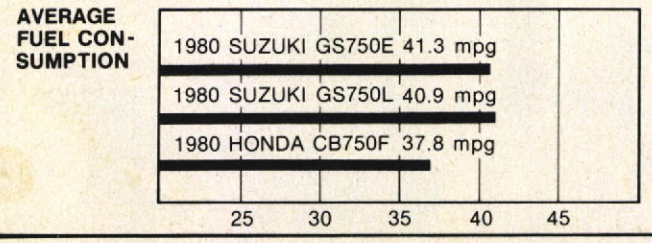












Suggested retail price.....$2799
Warranty.....12 month, unlimited miles
Number of U.S. dealers.....1450
Cost of shop manual.....None available

ENGINE

Type.....Four-stroke DOHC four
Displacement.....747.3cc
Bore x stroke.....67 x 53mm
Compression.....9.4:1
Carburetion.....4, 32mm Mikuni CV
Ignition.....Transistorized pointless
Lubrication.....Wet sump, trochoidal pump
Lighting output.....230 watts
Battery.....12V, 14AH

DRIVETRAIN

Primary transmission.....Helical gears, 2.162:1
Clutch.....16 plates, wet
Final drive.....¾ x ⅜ (No. 630) D.I.D. endless chain, 41/15,

CHASSIS

Fork.....35mm Kayaba, 5.9 in. travel
Shocks.....Kayaba, 4.2 in. wheel travel
Front tire.....3.25H19 Bridgestone Mag Mopus L303
Rear tire.....4.00H18 Bridgestone Mag Mopus S714
Rake/trail.....28°/4.06 in. (103mm)
Wheelbase.....60.2 in. (1530mm)
Seat height.....32.0 in. (813mm)
Ground clearance.....5.6 in. (142mm)
Fuel capacity.....5.0 gal. (19 liters)
Wet weight.....552 lbs. (250kg)
GVWR.....1026 lbs. (465kg)
Colors.....Silver, red
Instruments.....Speedo, odometer, resettable tripmeter, tach, fuel gauge, gear position indicator; indicator lights for left turnsignal, right turnsignal, low oil pressure, high beam, and neutral

PERFORMANCE

Power to weight ratio, unladen.....8.6 lbs./hp
Fuel consumption.....36 to 44 mpg, 41.3 mpg average
Average touring range.....206 miles
Quarter-mile.....12.51 sec. at 105.1 mph
Top gear 50-mph pass, terminal speed.....75.1 mph
RPM at 60 mph in top gear.....4500
Speed in gears at (redline).....(9500) 1st 47 mph; 2nd 68 mph; 3rd 88 mph; 4th 108 mph; 5th 126 mph
Speedometer error.....30 mph, actual 29 mph
60 mph, actual 58 mph

models seem to be even more softly sprung than earlier GS-series machines, already soft.

If your riding is oriented less to superhighways and more towards charging the corners on a favorite stretch of back-road chicanery, you may find the GS750's suspension too soft, especially at the rear. Although you may also wish for a bit more damping, the soft springing is more of a drawback because it allows you to use up all of the GS750's limited cornering clearance in a hurry. One tester grounded something just making an easy turn into a driveway with a passenger. When riding solo, bits of the underside are dragging long before the tires have begun to consider slipping.

That isn't to say that we liked the Bridgestones because we didn't. Actually, the front one was quite acceptable, but the rear one inspired no particular confidence on wet or dry pavement. In fact, the tires on the E model didn't stick or track quite as well as the IRCs on the GS750L we had for the accompanying impression. Most Suzuki street machines come with IRCs on some bikes of any particular model and Bridgestones on other examples of the same model. As we found out with our GS450s, the IRCs can improve steering and handling significantly. However, even with the 'Stones, the GS750 was stable and reasonably accurate.

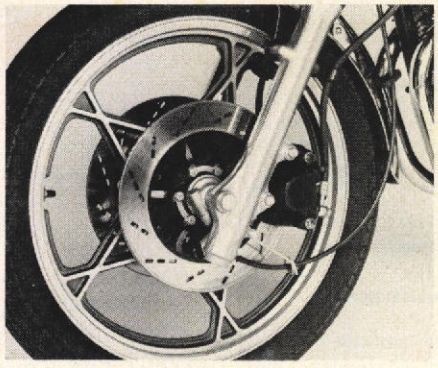
The GS750's brakes worked strongly and predictably, even in the rain. The oval holes in the discs, set in rows of two and three, probably contribute to the wet-weather braking quality and help stop squeaking. They do make a slight whirring noise during braking, which you can hear if you listen for it. The rear brake on our E model was a little too powerful for the Bridgestone and could be locked a bit easier than we prefer. The rear brakes on both the E and the L surged during light applications at low speeds.

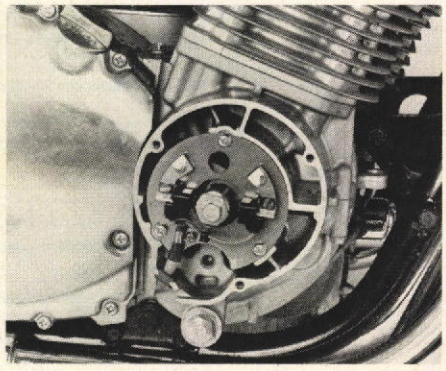
Aside from that brake surge, the only problem we had was a footpeg rubber which fell off less than 100 miles after we received the machine. The problem is just that the rubbers aren't attached very well to the footpegs. We never even dragged it.

Maintaining the GS750 should be a fairly straightforward proposition—except for the battery, which is buried under the airbox and behind electrics. Like the GS1100, the 750 uses forked rocker arms to actuate the valves with the cam lobe meeting the rocker between the valves and the rocker shaft. The rocker arm's fingers contact the valve stems through threaded adjustable tappets. The threaded adjusters eliminate the need for a collection of shims or a valve depressing tool when the service interval rolls around every 6000 kilometers (3750 miles). Although this valve-adjustment system will probably require more frequent adjustment than shim-type valve trains, it's probably worthwhile simply because you don't have to chase down and buy shims to make the adjustments.

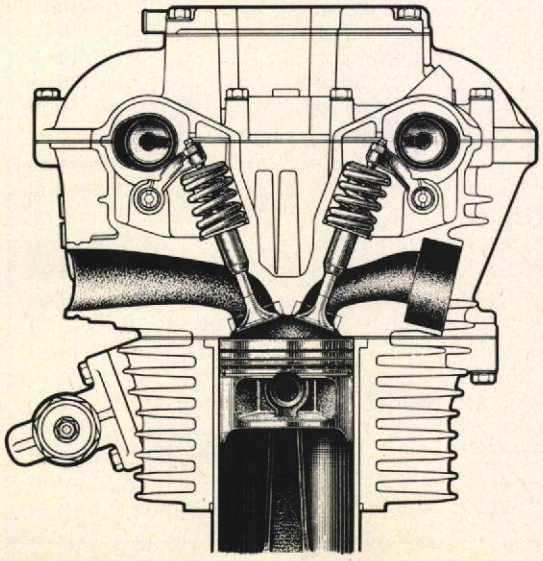
The new GS750E makes a worthy opponent for the Honda CB750, although that machine will get away from the Suzuki on a twisty road. Tourers who don't want to tote around the weight of a driveshaft will find the GS750 an attractive mount for the open road. And it has the speed to make just plain old everyday riding plenty of fun.

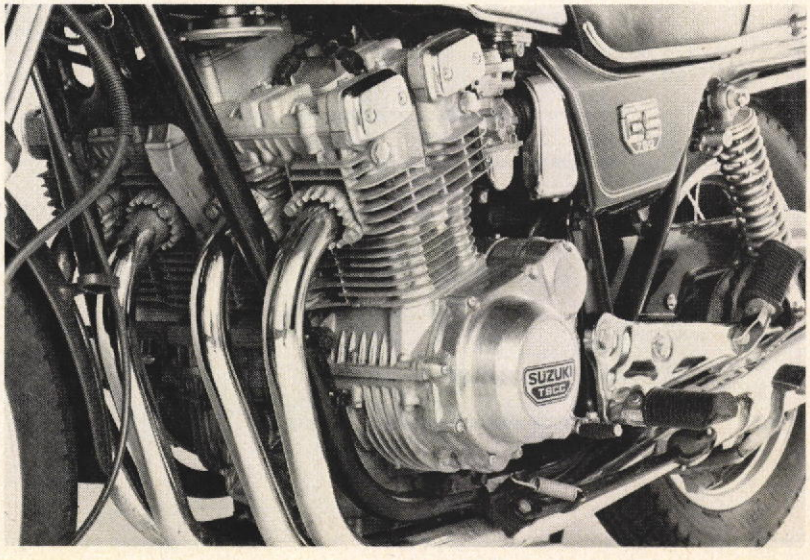
However, we're not sure what—except perhaps easier valve adjustments—has been gained by all the changes made to the GS750. The two-valve-per-cylinder GS750 introduced in 1977 was plenty reliable and just as fast and comfortable as this one. Sure, meeting 1980 emissions standards would have slowed it down, but we suspect that fitting it with electronic ignition and those big CV carbs would have restored most of the punch. The new 16-valve GS750 is an exciting, likable motorcycle, although the added complication seems more like keeping up with the Joneses rather than purely practical change. *M*





Cast wheels (right) and electronic ignition (far right) are stock on all GS models now. The ignition (which includes a black box) can be fitted to some older models. Suzuki claims their TSCC cylinder-head design (below) boosts power, improves throttle response, reduces detonation, lets the valves run cooler, reduces valve weight (even more than a conventional four-valve head) and lowers valve gear mass center. It's easier to service even with more parts.





SUZUKI GS750L

Two hundred dollars worth of extra flash.

You can see them by the dozen on Friday nights, trolling the Sunset Strip in front of our offices. They rumble past with their tiny candy-appled gas tanks, bars swooping audaciously skyward, fat rear wheels crouched on the pavement, long-looking forks stretching for front wheels. The riders sit upright, viewing the world as if their stepped vinyl seats were thrones, blipping throttles to turn heads, telegraph challenges or beckon an inviting figure from the sidewalk.

A few years ago the Friday night cruising corps rode customs—real customs, bikes they had modified themselves at considerable expense. Nowadays the riders of real customs are in the minority. Lately the neon signs reflect off the chrome and polish of factory-built profilers—Kawasaki LTDs, Yamaha Specials, box-stock Harleys, Honda Customs and Suzuki L models. These new Sunset Boulevard trollers are heavier in the wallet because they didn't have to buy all the pieces to restyle their bikes, and they have more time for riding because they're not stuck in their garages trying to make some special piece fit, repairing a jury-rigged component or waiting the long-overdue arrival of some part. These riders of off-the-rack "customs" have made the motorcycle manufacturers rich by buying boatloads of these factory choppers—which fetch $100 or more over the prices of their less swoopy sister models.

Suzuki was one of the last to start building their own ready-made soft-core choppers, but then they got into it at full throttle. Every standard model, from the GS450 twin to the mighty GS1100 four, now has an L-model counterpart. In the case of the GS1000, which now comes in chain-drive and shaft-drive versions, there are L models of both types. Suzuki's formula for styling the Ls is much more standardized than any other company's chopper-look approach. As a result, the Ls bear much more family resemblance than any other company's ready-made customs.

The new GS750L is a typical L-model conversion. It uses the same engine and basic chassis as the new GS750E and costs $200 more. Most of the functional pieces are the same on both models. The L's drive train is changed by the substitution of a fat (130/90) 16-inch rear tire on a wide (2.75) cast wheel. To compensate for the smaller rear tire, Suzuki raised the gearing by dropping the rear wheel sprocket one tooth to 40 teeth. The only other change made to the power train components are shortened mufflers. With these changes, the L model is just a hair slower than the E. On the same day with the same rider, it ran a 12.62-second, 103.9-mph quarter-mile. In all other respects, its power-producing pieces acted just the same as the E's. However, with its smaller 4.0-gallon fuel tank, it has less range than the E.

The lower rear axle height tilts the bike very slightly, giving it an extra degree of rake. The L also has less cornering clearance than the somewhat sparse amount on the E. We did prefer the L's tires while cornering. Handling is not significantly different otherwise.

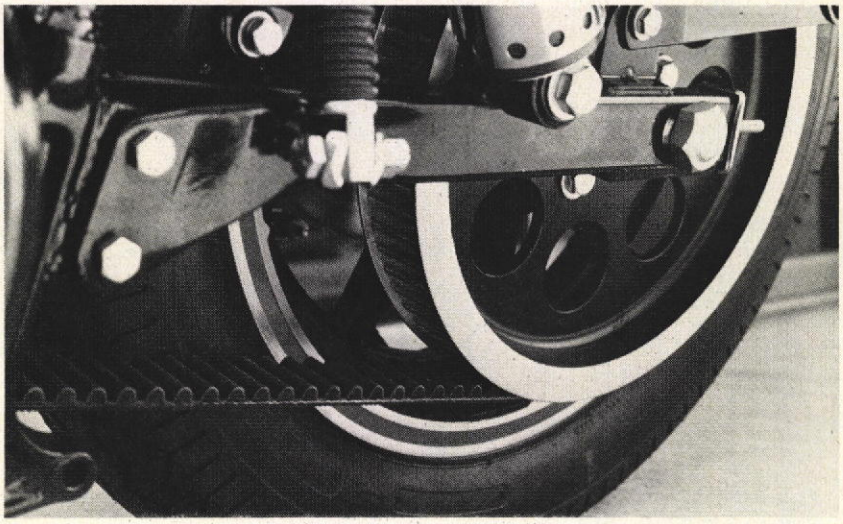
The rider's portion of this year's seat seems a bit roomier than last year's L seat, but it was still too cramped for comfort if we rode the bike for any length of time. Part of the crowding was caused by the high, wide, pulled-back handlebar which forced a somewhat stiff riding position.

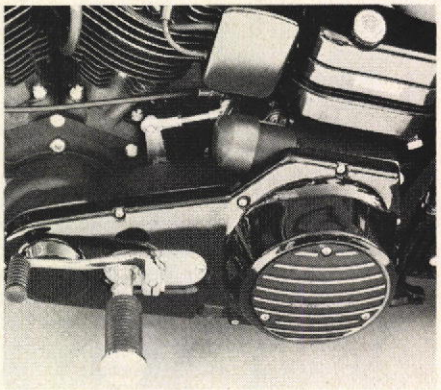
The L's round H-4 headlight puts out as much light as the E's rectangular beam, but the chopper's little taillight has just one bulb instead of two. The L also lacks the E's small storage compartment. The instrument panel is different but has the same instruments including gear indicator and fuel gauge. The fuel gauge is necessary because, like the E and many other 1980 Suzukis, the 750L has no reserve fuel system. The rest of the changes are just styling—different turn signals (chrome instead of black), chrome fenders and chain guard, no tail section, different footpegs, etc. However, the L's dry weight is 7 pounds less than the E's. The difference grows to 11 pounds when they're both weighed wet.

From a purely functional standpoint, it's hard to justify the extra two bills you have to cough up to get a GS750L instead of an E. But if the L's style is what you're intent on ending up with, it would cost a lot more to do it yourself.

PHOTOGRAPHY: ART FRIEDMAN, JOHN GATES

PRODUCT CLOSEUP





The primary belt behind this new gloss black sidecover is 1⅛ inches wide and has 78 teeth. The larger rear belt is 1¼ inches wide with 126 teeth. The primary sprocket is damped.

H-D STURGIS: THE FIRST BELT-DRIVE

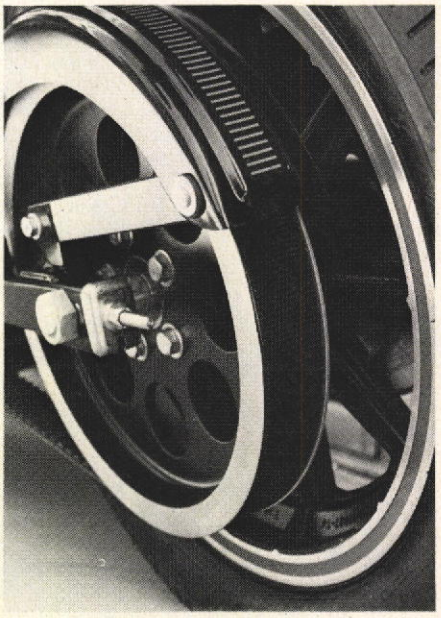
Harley-Davidson, fresh from breaking new ground by fitting an enclosed chain to their 1980 Tour Glide, has announced another drive-train breakthrough with the FXB 80 Sturgis. Motorcycles routinely had belt drive in the early years, but nothing like the steel-tough synthetics in Harley's "Black Belt." Both the primary and secondary drives on the Sturgis are *via* belt, the purpose being to reduce noise, improve smoothness and eliminate the problems of oiling and adjusting chains without the weight, expense and horsepower loss of a shaft. The Harley is particularly suited to a primary belt because of its dry clutch which previously had to be isolated from the primary chain oil system.

H-D began researching belt drive three years ago following the success of various aftermarket suppliers with their own systems. Gates Rubber Company, a huge supplier of fan belts to the automotive industry, worked closely with Milwaukee engineers from the beginning to develop a polyurethane belt strengthened with DuPont Kevlar, a plastic tougher than steel in many applications. The resultant "polychain" seems to be a miracle product: it needs no oiling, requires minimal adjustment, lasts up to 20,000 miles, stays reliable in rain and snow, robs less than one percent of the engine's horsepower and costs about the same as a modern steel O-ring chain ($75-90).

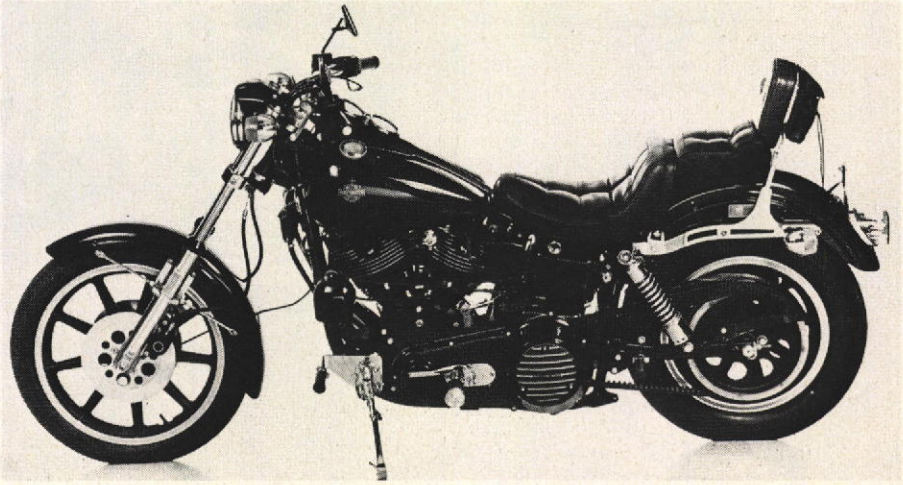
Motorcyclist rode the Sturgis briefly (about two miles in a parking lot) and other than being noticeably quieter, it felt no different than the standard Low Rider. We speed-shifted the bike and let it lug mercilessly in top gear at 10 mph to see if the belts would balk, but they performed perfectly. In front of H-D personnel, we locked the front brake, gassed the throttle and gingerly let out the clutch while watching the rear belt to see if it stretched or threatened to jump a tooth. "Go ahead," said test-fleet manager Jack Malone, "wind 'er up and drop the clutch. You can't hurt it."

The factory is obviously very confident in their technology on the Sturgis, named for the famous Black Hills biker rally in Sturgis, South Dakota, but they're unsure of market acceptance as yet. Harley buyers are a breed steeped in image and tradition, and could very well consider belt drive a dilution of purity: "A Harley ain't a Harley without a genuine

continued on page 29



The 70-tooth aluminum sprocket is satin finished and drilled for lightness.

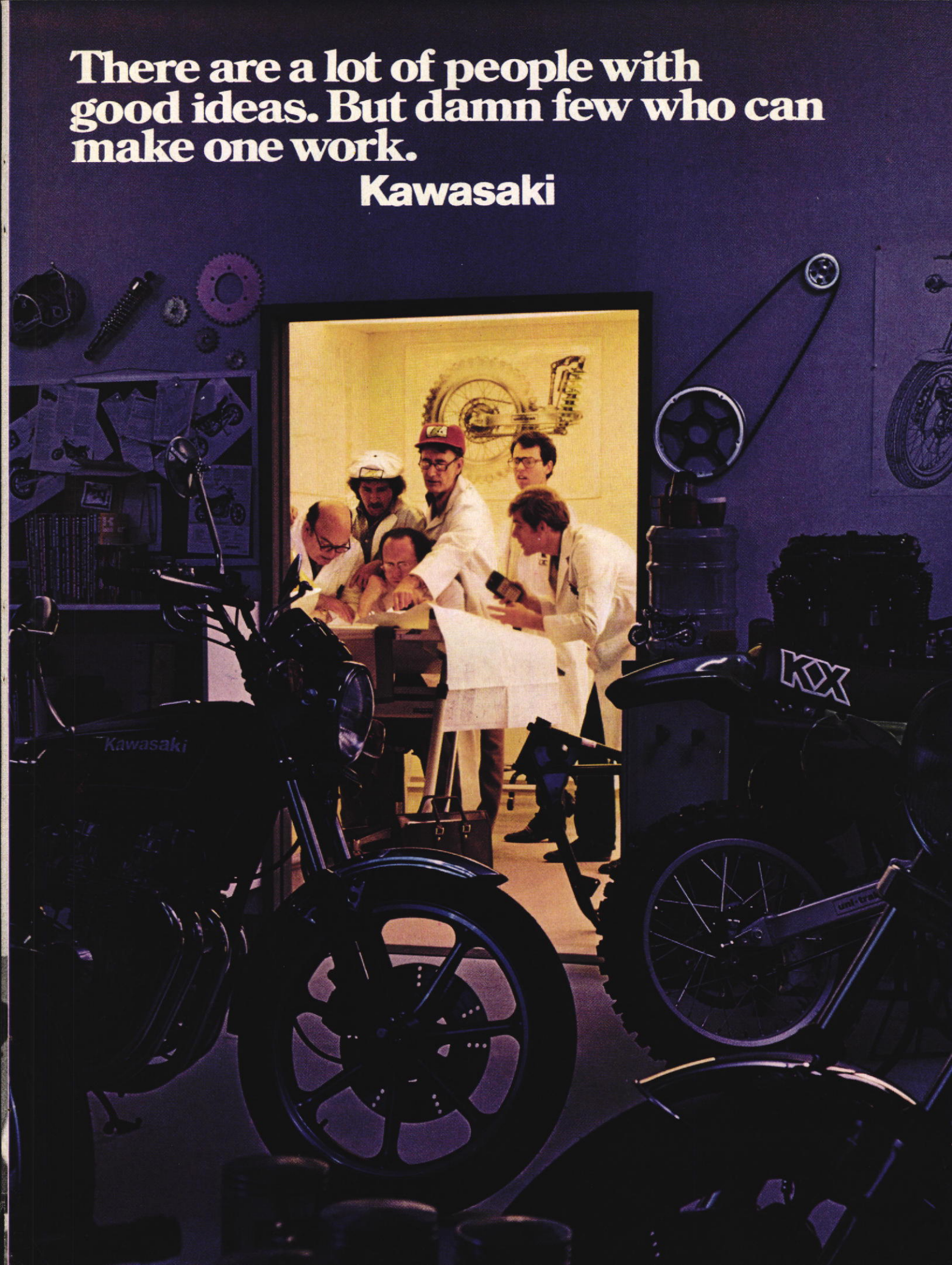


Black is the dominant theme of the Sturgis' styling. The bike is noticeably quieter because of its belt drive, but otherwise feels no different from the FXS 80 Low Rider that sired it.

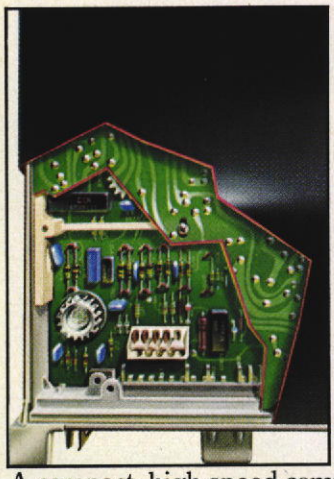
PHOTOGRAPHY: DALE BOLLER, HARLEY-DAVIDSON

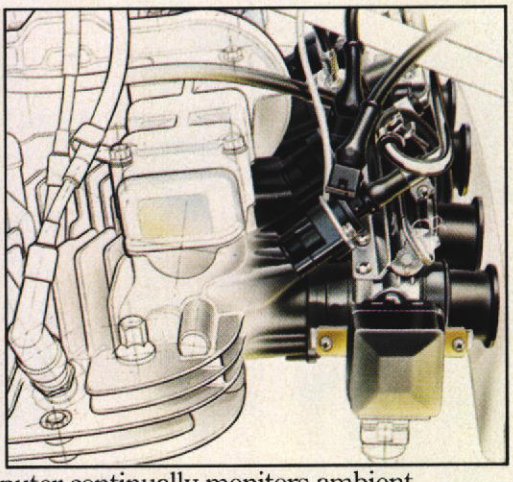
There are a lot of people with good ideas. But damn few who can make one work.

Kawasaki

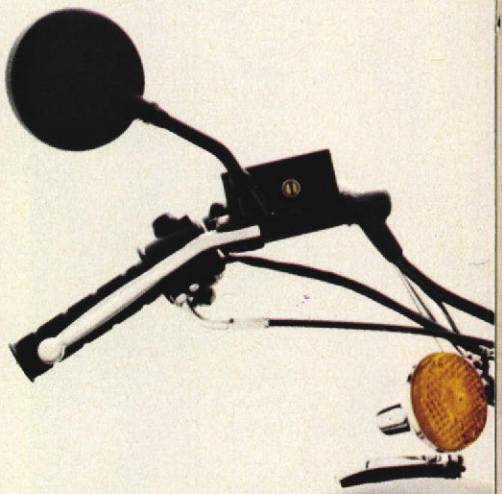


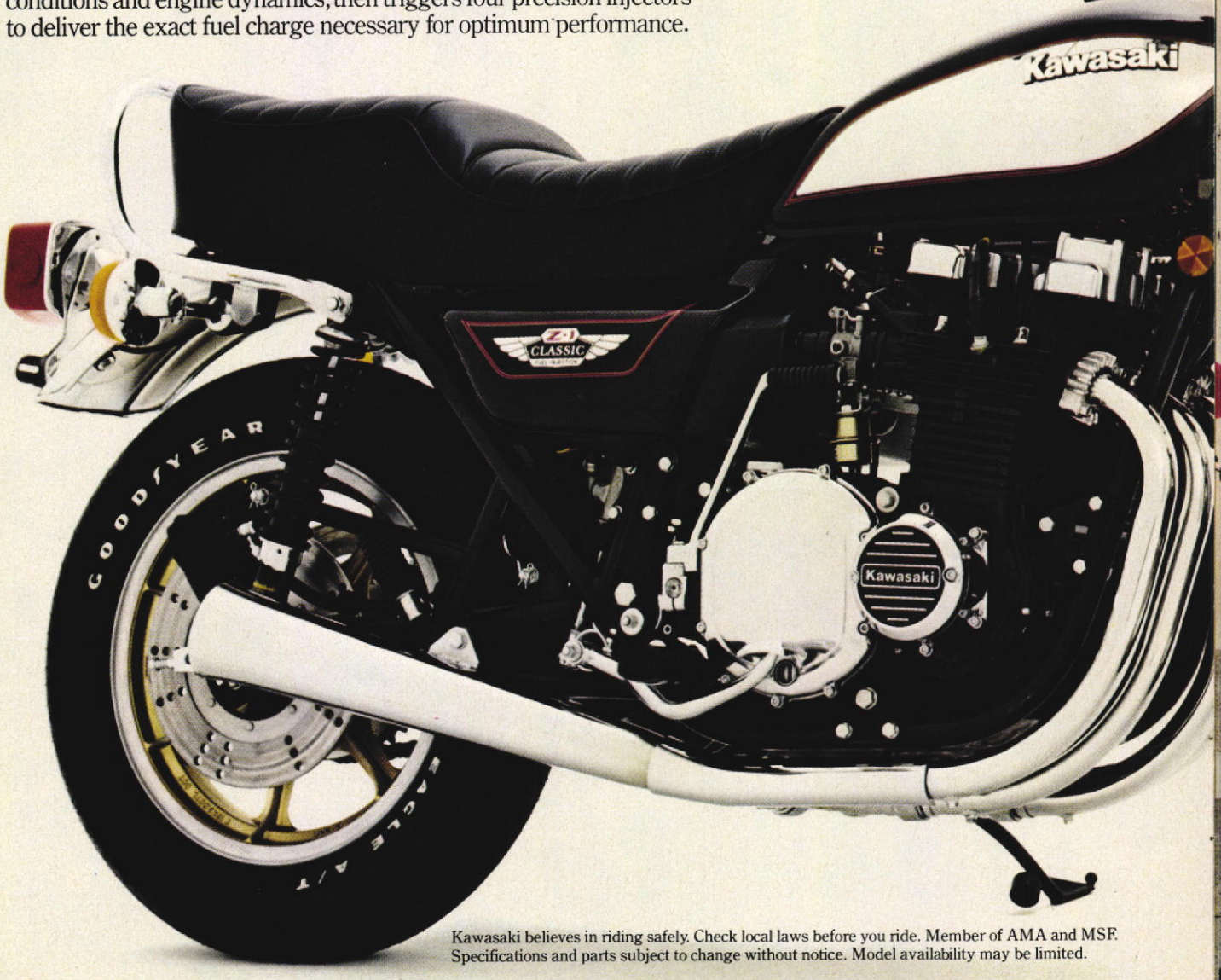
Electronic Fuel Injection was always a good idea. Making it work was an even better one.





A compact, high-speed computer continually monitors ambient conditions and engine dynamics, then triggers four precision injectors to deliver the exact fuel charge necessary for optimum performance.





Kawasaki believes in riding safely. Check local laws before you ride. Member of AMA and MSF. Specifications and parts subject to change without notice. Model availability may be limited.

At Kawasaki, Electronic Fuel Injection is more than idle thinking. We've put a brain behind it. A compact high-speed computer that fine tunes the fuel mixture to meet engine demands. At start-up, an engine needs a high ratio of fuel to air; that ratio changes as you accelerate, when cruising, again when idling. In all cases, the Z-1 Classic is the only motorcycle to meet those demands with the precision of solid state, electronic microcircuitry.

Nothing is left to chance. Electronic sensors continually monitor engine rpm, throttle position, air flow, and engine and air temperatures. Instantly, the computer processes this data, and triggers the injectors to deliver the precise fuel mixture required for efficiency, but most of all, performance. That's the legacy of the Z-1. The bike that *Motorcyclist Magazine* named the "Most Significant" and "Most Desirable" motorcycle of the decade.

The Z-1 Classic Limited Edition is even more desirable; with automatic cam chain tensioner, transistorized breakerless ignition, our exclusive Clean Air System. And more.

If you've got a mind for details, ask your Kawasaki dealer about the motorcycle with a mind. The Z-1 Classic Limited Edition. The world's only motorcycle with Electronic Fuel Injection as standard equipment.

Kawasaki

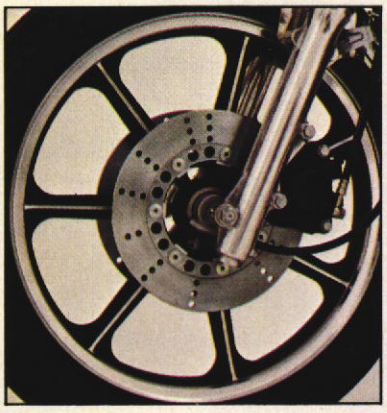
Don't let the good times pass you by.

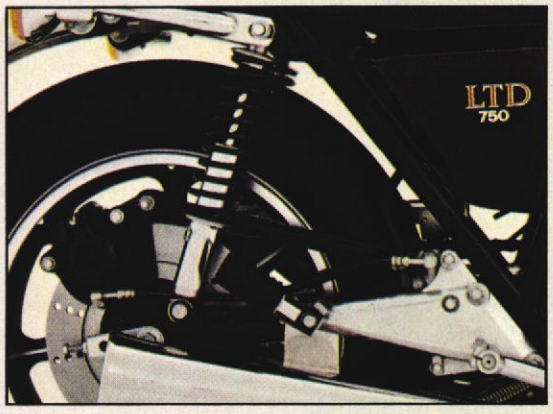
Gold cast alloy wheels and chrome plated fuel tank are distinctive signatures of the limited edition Z-1 Classic.

Triple drilled discs with sintered metallic pads for smooth, powerful braking.

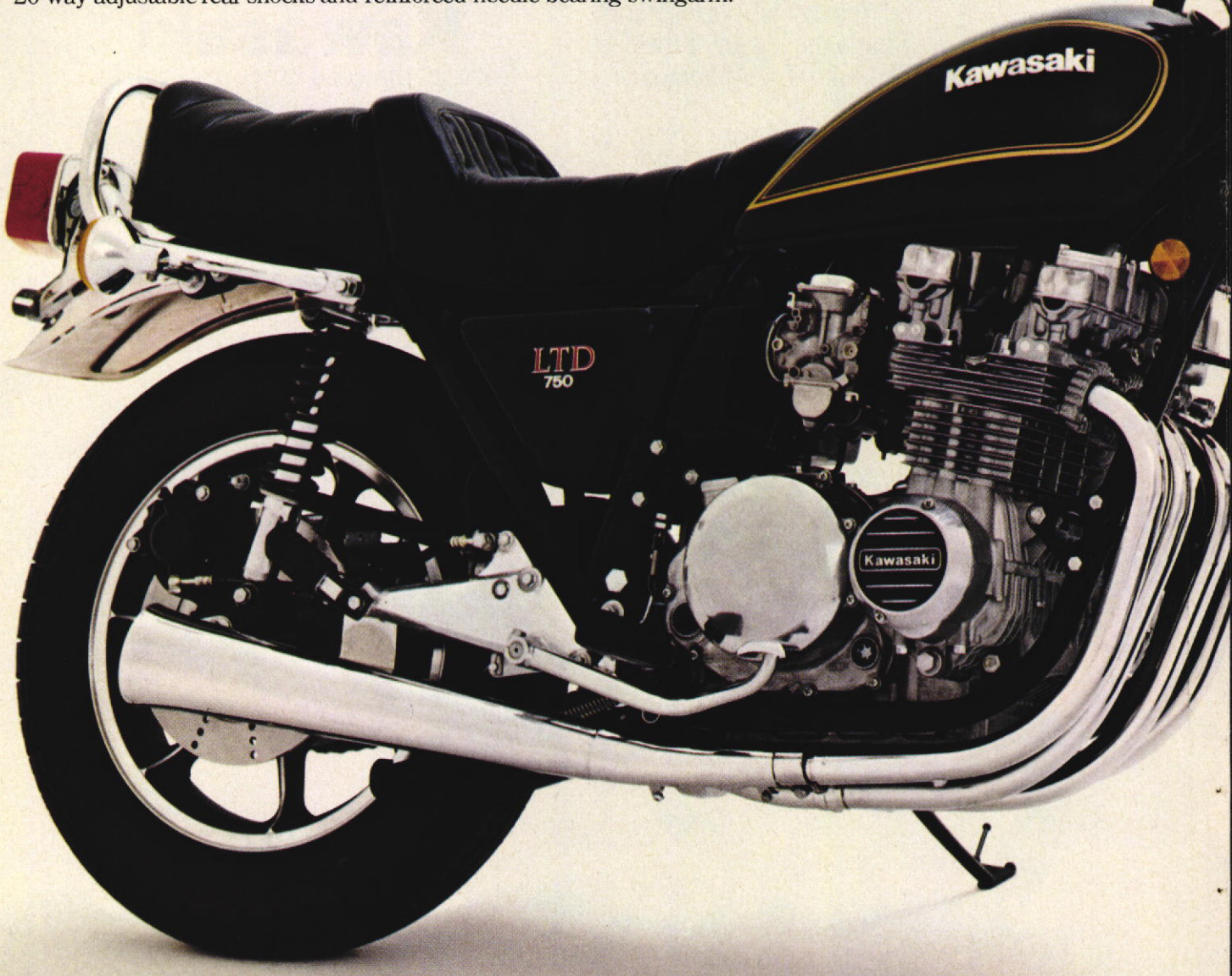
Getting a handle on a good idea is one thing. Getting a good idea to handle is another.

Introducing The KZ750/4 LTD.





The most advanced suspension in its class: air-adjustable leading axle forks, 20-way adjustable rear shocks and reinforced needle bearing swingarm.



Kawasaki believes in riding safely. Check local laws before you ride. Member of AMA and MSF.
Specifications and parts subject to change without notice. Model availability may be limited.

American Sports Styling. A good idea, sure. Dress'em up. But can you take them anywhere? Face it, there are times when even the best rider wishes his style-bike were a road racer. Like when the road gets a little too tough to handle. A bank too steep. A curve too tricky. But now going in style is something everyone can handle.

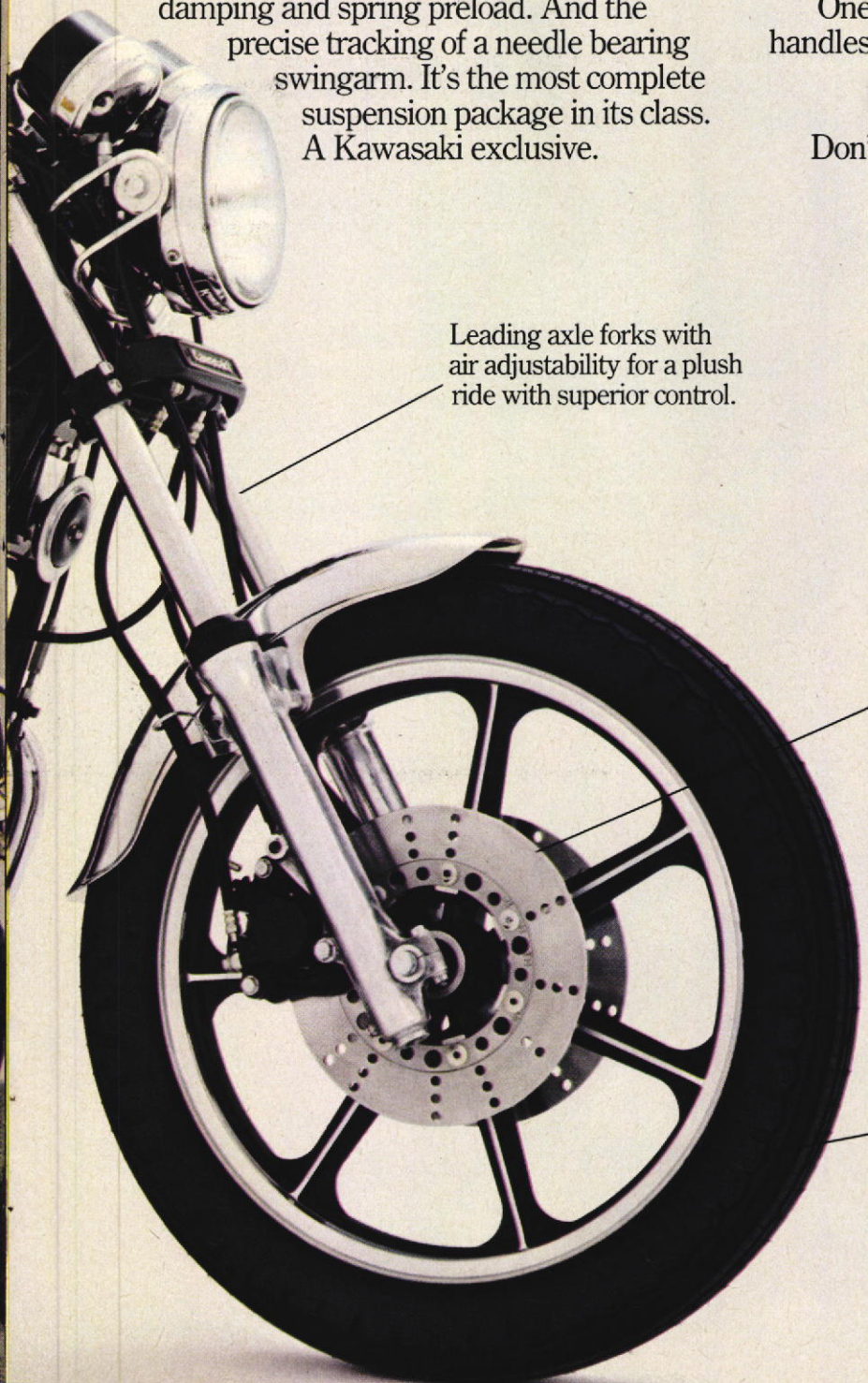
Enter the KZ750/4 LTD. A machine that caters to your every whim. With a super-sophisticated suspension system that puts you in control. Air-adjustable leading axle front forks. Plus, rear shocks you can fine tune for damping and spring preload. And the precise tracking of a needle bearing swingarm. It's the most complete suspension package in its class. A Kawasaki exclusive.

A word about what you'll be handling. A larger displacement version of the legendary double overhead cam engine that holds world records for speed and endurance. There's more. The KZ750/4 LTD boasts more standard features than any other bike in its class. A quartz halogen headlight, pullback handlebars, cast alloy wheels (16" in back), tubeless tires, two piece stepped seat, maintenance-free transistorized breakerless ignition, constant velocity 34mm Keihin carbs, even Kawasaki's exclusive Clean Air System.

One other nice thing about the bike that handles: You can handle the price, too.

Kawasaki

Don't let the good times pass you by.



Leading axle forks with air adjustability for a plush ride with superior control.

Triple drilled discs with sintered metallic pads for smooth, powerful braking.

Performance-designed tubeless tires are mounted on tough, cast aluminum alloy wheels.

Kawasaki's exclusive Clean Air System. Meeting EPA standards doesn't mean lowering ours.

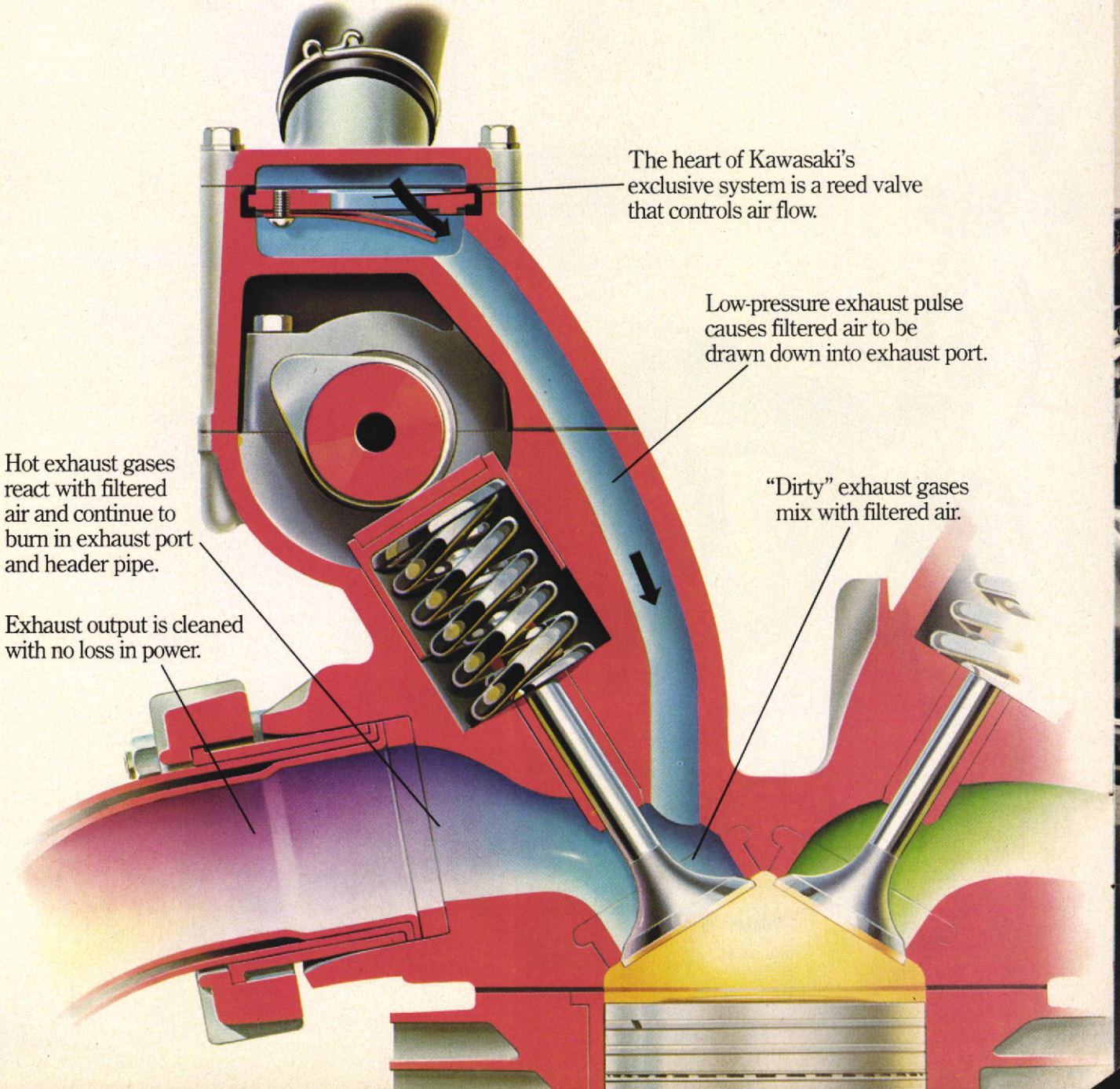
Performance. For some, meeting tougher EPA standards brought a tear to the eyes. For others, pollution had much the same effect. The solution? Locate a small reed valve above each cylinder that helps the engine clean up its exhaust without a loss in power. A simple idea. The best ideas always are.

This is how it works: Between combustion cycles, there's a low pressure pulse that occurs just after the exhaust valve closes. This pulse opens a reed valve which admits filtered air into the exhaust port. Because of the high heat already present, unburned combustion gases combine with this extra air, and emissions are effectively reduced. More effectively than a smog pump or catalytic converter, because our clean air system doesn't rob power.

There you have it. Performance. A standard we've always had. One we'll always keep.

Kawasaki

Don't let the good times pass you by.



When we created a better suspension system, we weren't just spinning our wheels.

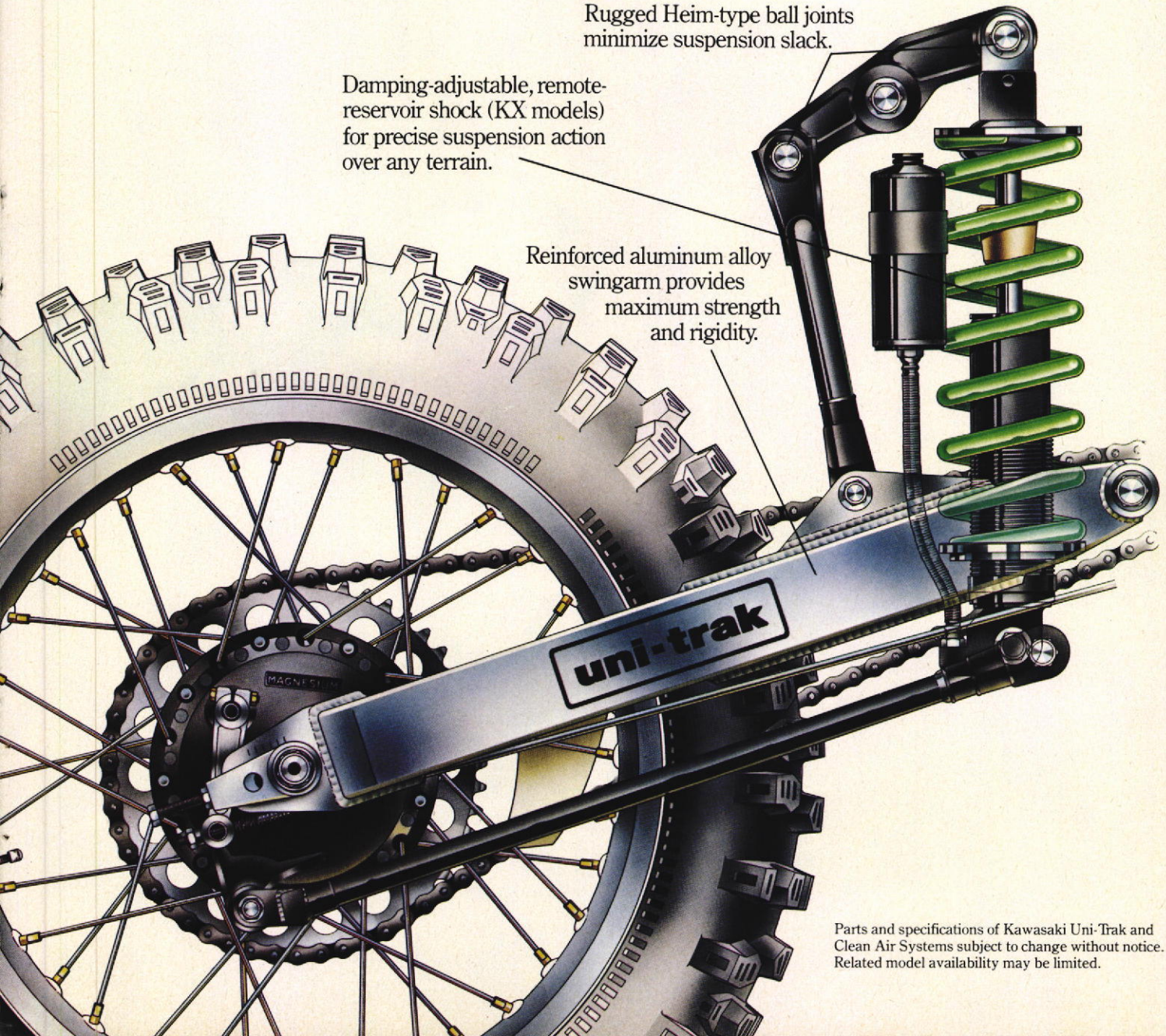
Uni-Trak.™ While everyone else had their heads in the clouds, we had our wheels on the ground. Longer. Longer than any other form of suspension, according to Team Kawasaki rider Brad Lackey. And with more European moto wins than any other rider on the circuit last year, he oughta know.

Uni-Trak. One strong shock connected to the swingarm through a rockerarm. The rear wheel moves parallel to the shock, vertical to the ground. The center of gravity is down low and central, to work for you—not against you. You hook up better in the corners as well as down the straights. You track straighter through the stutter-bumps and whoops.

You'll be seeing a lot of imitators in the years ahead. When you do, remember the people that made the original one work. The guys up ahead on the track. Kawasaki.

Kawasaki

Don't let the good times pass you by.

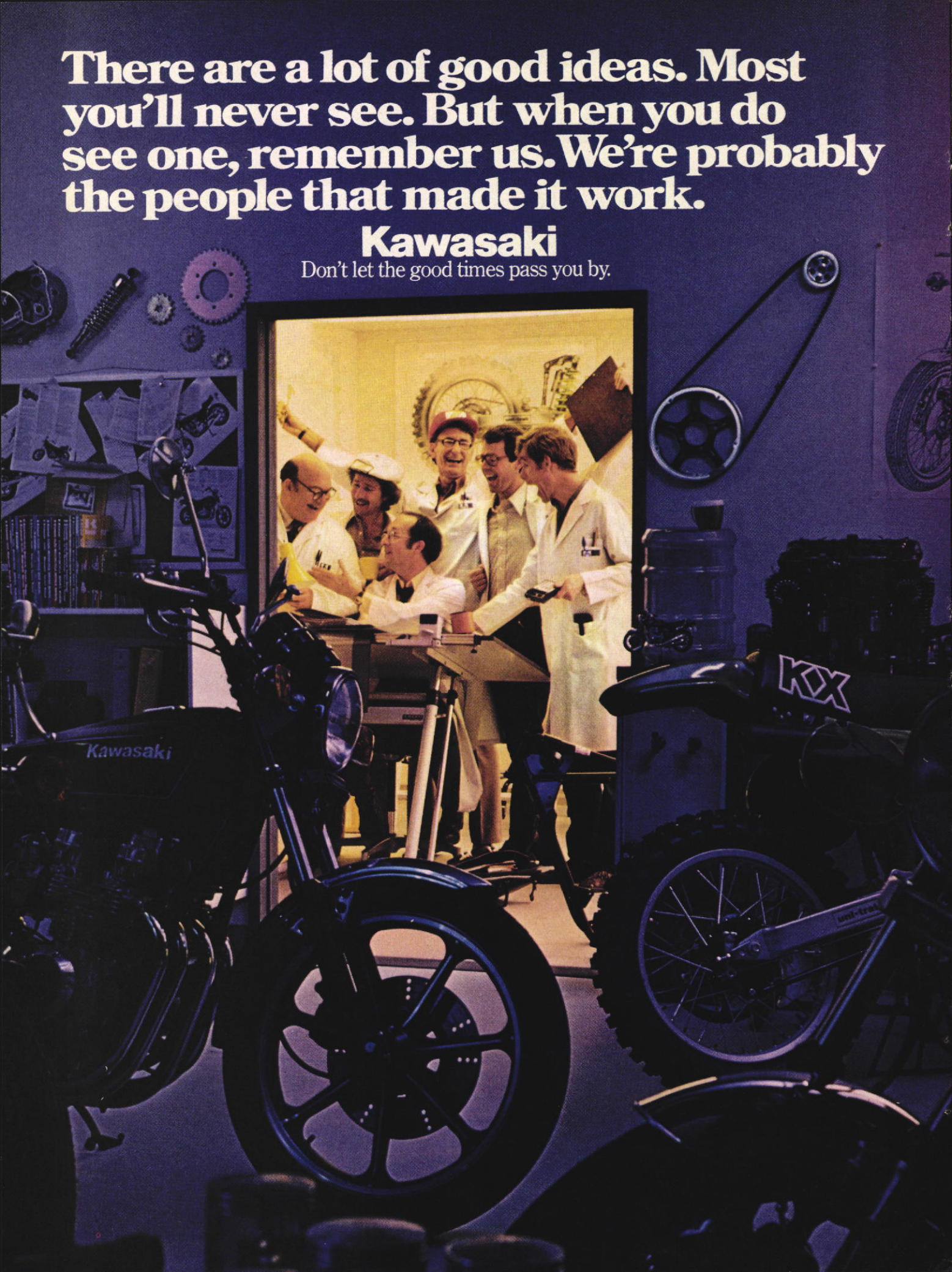


Parts and specifications of Kawasaki Uni-Trak and Clean Air Systems subject to change without notice. Related model availability may be limited.

There are a lot of good ideas. Most you'll never see. But when you do see one, remember us. We're probably the people that made it work.

Kawasaki

Don't let the good times pass you by.



H-D STURGIS
continued from page 20

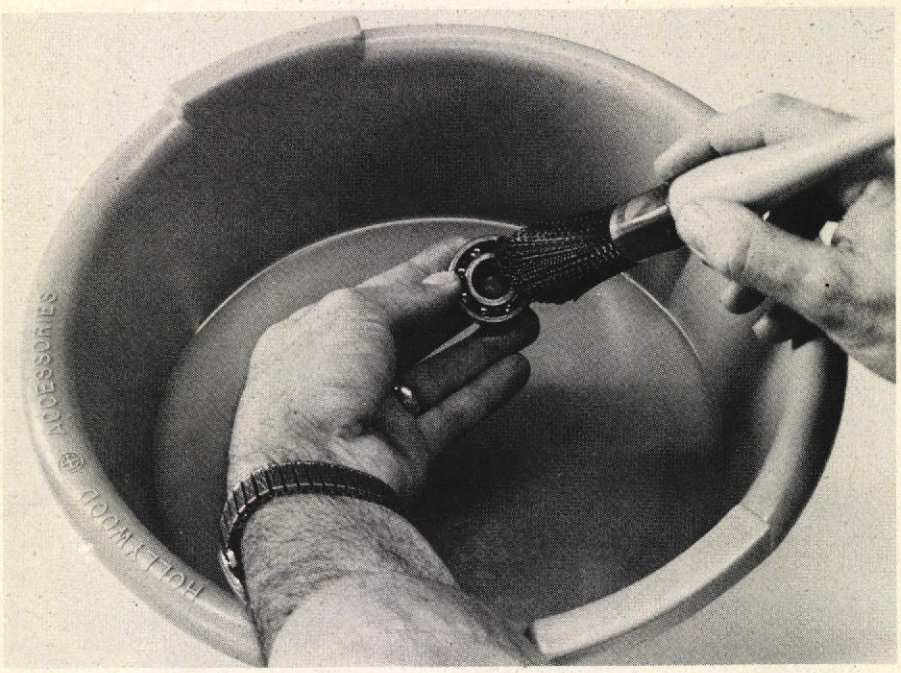
god-fearing chain." Consequently, only 1200 Sturgis models will be produced and sold this spring with no advertising to test market response.

The Sturgis is derived from the FXS 80 Low Rider, the backbone of Harley's line. Both engines are the same and include the new Magnavox electronic ignition advance for smoother power delivery. The overall gear ratio on the Sturgis is about 5 percent higher than the Low Rider, but with a claimed 71.5 foot-pounds of torque at 3800 rpm, the 80-inch Sturgis V-twin can easily handle the taller gear.

If reliability proves to be what Harley-Davidson says it is, belt drives appear to have a strong future. We can see only a couple of drawbacks. One is installation which will involve the aggravation of swingarm removal, but this is standard with endless chains as well. The other is the non-repairable nature of a belt. At least a chain can almost always be repaired with proper tools and spares. But what happens if a belt breaks? Don't count on being saved by a spare unless you figure you can pull the swingarm on the side of the road, a chore doubly tough on a Harley because it has no centerstand and no toolbox. What might save you is a repair kit Gates and H-D are testing right now. It enables a broken belt to be spliced with small metal pins so it's good for about 200 miles of riding at very careful throttle openings.

For manufacturers the great benefit of belt drive is noise reduction, which will help them meet ever-tightening EPA regulations. The consumer's main benefit is an end to the oiling ritual and those tiny grease spots on clothes from oil flinging off the chain. True, an O-ring or X-ring chain doesn't need heavy oiling and doesn't fling, but they do need a light coating on the outside to prevent rust. And this coating must be reapplied after every rain or 50-cent car wash. You can say goodbye to all of that with a belt.

Don't expect every new model to have belt drive in a year or two. Kawasaki will have one later this spring on their KZ440 street twin, but Yamaha testing has shown that to survive on a large-displacement high-revving 80-to-100 horsepower Japanese four, a belt would have to be three inches wide. So for a while at least the Harley Sturgis, with its lumbering torque, big flywheels and deliberate power delivery will be the only big bike to boast the benefits of belt drive. Its price is $5687, $261 more than a chain-drive FXS 80 Low Rider. *M*



Wheel Bearings

How To Remove, Repack And Replace Them

By Joe Minton

The single greatest cause of motorcycle component failure is neglect. Average chain life can be easily doubled by proper maintenance. Burned valves are largely the result of too-infrequent valve adjustments. Broken spokes are usually due to poor maintenance. One of the most ignored of a motorcycle's many parts is the lowly wheel bearing, the subject of this month's "How To."

Wheel bearings, usually ball bearings, though occasionally tapered rollers, are tucked away behind brake panels, sprockets and seals. Since wheel bearings rarely seize and toss people on their duffs, the handful of bearings that keep us rolling are quietly taken for granted. Modern ball bearings are wonderfully reliable, and motorcycle manufacturers take great care to protect them from the ravages of dirt and water. However we have managed to get around their best efforts by way of the ubiquitous coin-operated car wash. When the high velocity spray of hot, soapy water strikes the axle-seal junction, a little soap will find its way into the bearing cavity where the soap can complete its primary mission—attack and destroy oil and grease! Even if the wheel bearing's lubricant is not destroyed by soap, it will wear out and require replenishment. The factory-recommended repacking interval varies from 10,000 miles to 25,000 miles and is somewhat arbitrary. Repacking wheel bearings at 25,000-mile intervals will be often enough if you keep your wheels out of deep water and watch where you point that hot, soapy water spewing at 25-cents per minute.

Ball bearings, secured by an interference fit at the factory, should be removed from aluminum hubs by heating the hub, thereby causing it to release its grip on the bearing. Driving the bearing out of a cold hub with a punch and hammer (often done by *professional* mechanics) loosens the hub's bearing seat and ruins the bearing. So, if your bike is approaching the 25,000-mile mark and you want the job done right—gather your tools and confidence and let's go!

The most important tool needed to successfully complete this job or any other maintenance or repair task on your motorcycle is knowledge. Acquire a factory shop manual for your motorcycle and be sure that it covers your bike's exact year and model number.

Although this article provides accurate information which you can use to properly remove, clean, lubricate and install your motorcycle's wheel bearings, the actual construction of motorcycle wheels varies considerably. Some wheels make use of sealed bearings to exclude dirt and water from the interior of the bearings while others incorporate separate seals that may be pressed into the bearing cavity. Also, the number and construction of the all-important bearing spacers will vary from one make and model to another. Therefore you should have a shop manual to provide the specific information necessary to complete this job on your particular motorcycle.

You will need a supply of clean *solvent* with which to wash the bearings and some medium weight *grease* to repack them. The cleaning solvent should be a "safe" commercial grade as used in service stations and repair shops. Most service stations will sell you a gallon of cleaning solvent. If it is not possible to obtain commercial solvent, kerosene can be used. Other solvents such as acetone or gasoline will not harm the bearings but present such a fire danger that they should not be used. You will also need a clean container in which to wash the bearings, and a *clean* brush.

Automotive wheel bearing grease is not necessary and is not desirable for use in motorcycle wheel bearings. The long fiber-metallic soaps used to hold oil in wheel bearing grease were developed to withstand very heavy loads and long use. When used in a motorcycle's wheel bearings, these greases will create more drag than is desirable while providing no real lubrication advantage. Medium weight, general purpose chassis grease gives excellent service and can be used for general lubrication of your motorcycle as well as for its wheel bearings. The recently introduced chassis greases containing MoS2 (Molybdenum di-Sulphide) are superior in performance, particularly where the loads are high as in wheel bearings.

Photo 1: Because of the variations in wheel design, we cannot list all the tools required. However, a couple of them are critical: you will need a hard punch and a soft hammer. A steel punch with the business end square and sharp is essential. A well used, rounded punch greatly increases the likelihood of a slip that could dent a bearing retainer and ruin the bearing. The soft hammer will reduce the chance of striking the bearing too hard which can cause unseen but permanent damage. Brass or aluminum punches should not be used because of their tendency to spray brass or aluminum particles into the bearing. A light ball-

PHOTOGRAPHY: JOE MINTON

peen hammer is good to have around as it is sometimes necessary to cautiously use a little more force to seat a reluctant bearing.

A controllable source of heat is required. This can be an electric hot plate, propane or acetylene torch, oven or stove top burner with a metal plate between the flame and the wheel's hub. *Remember:* never subject the wheel bearing to direct flame. The ball retainer is a thin, precise and easily overheated component. If it is overheated, the bearing will fail. If at any time, during heating, the bearing takes on a yellow or darker color, the bearing has been overheated and must be replaced with a new part.

Begin by removing the wheel and, using your shop manual for guidance, any seals, brake panels or bearing retainers necessary to provide access to the bearings.

Photo 2: Wipe any dirt or excess grease from around the bearing and any part of the hub that will be exposed to heat. The outer race of the wheel bearing is held by an interference fit in the aluminum hub. When heated, the aluminum expands more than the steel bearing and loosens its grip so that the bearing may be easily removed. Heat the hub until a drop of water placed on it, adjacent to the bearing, dances around as it boils away. *Note:* if the drop of water just lays there and bubbles, the hub is not hot enough. When the hub is hot, remove it from the heat source. Quickly invert the hub over a soft shop towel. If the bearing does not fall out, rap the hub with the soft hammer. Should tapping the hub fail to dislodge the bearing, carefully tap it out from the opposite side with your punch. If anything more than very light tapping is required to remove the bearing, it should be replaced. (When a punch is used to remove a bearing, the force of the hammer blow must be applied to the inner race where it is transferred to the balls and then the outer race. The force of these blows may cause the balls to crush and dent the hard, brittle surfaces of the inner and outer races. This damage will not be apparent but it is fatal to the bearing. *Never* use a bearing that has been struck a sharp hammer blow).

After the bearing has cooled, wash it thoroughly with clean solvent and a clean brush. A second rinse in clean, unused solvent is a good precaution. Dry the bearing. Gently rotate the inner and outer races while holding the bearing in your fingers. Any roughness is reason enough to replace the bearing. It is normal for the bearing to seem "loose;" this play between the inner and outer races is taken up by the spacers in the wheel and will disappear when the axle is tightened. Do not spin any ball bearing without lubricant.

Photo 3: Carefully pack the bearing with clean grease. If the bearing has a seal on one side, it can be properly filled by forcing grease between the races with your finger. It is not necessary to fill the space between the inner and outer races completely. Bearing manufacturers recommend that this space be filled to between two-thirds and three-quarters full. More than this only produces more drag and heat, and contributes nothing to lubrication.

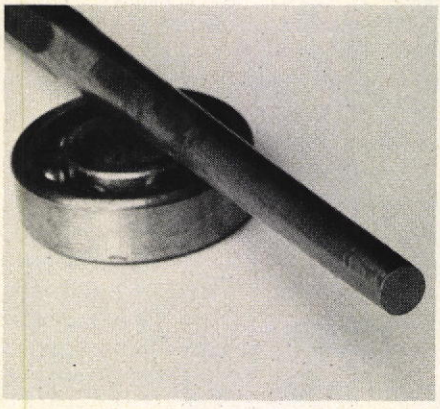
Photo 4: Re-heat the hub so it expands. Place the bearing in a freezer so it contracts. Correctly insert any spacers.

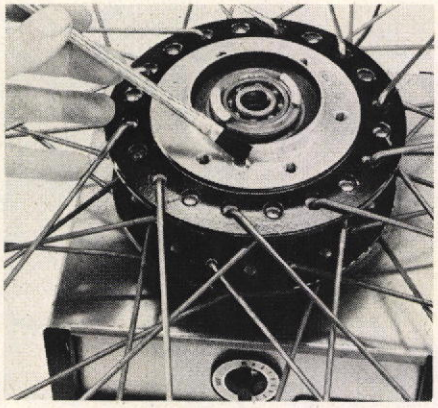
Photo 5: Position the bearing and push it into place with your fingers (be careful not to burn yourself). The expansion of the hot hub and the contraction of the cool bearing should allow the bearing to seat.

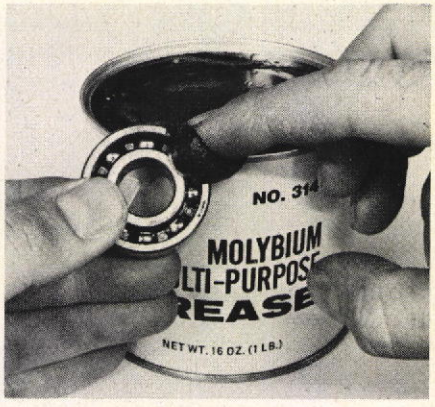
Photo 6: Check for proper seating by gently tapping the *outer* race with the punch and hammer. Tap the outer race in several places evenly around its circumference. If the bearing is seated, the punch will feel very "solid" when tapped by the hammer. *Note:* never tap the inner race if you wish to avoid damage to the bearing.

After cooling, reassemble the wheel and install it. You have just completed a job that few professional mechanics take the time to do right.

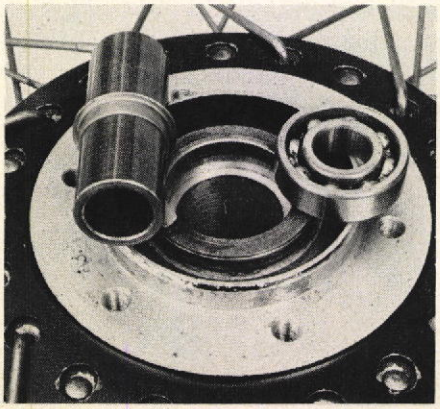
Maybe your wheels would never have seized and maybe your wheel bearings were not contaminated with car-wash soap, but you can be sure now that they are properly maintained. And you did it yourself. *M*

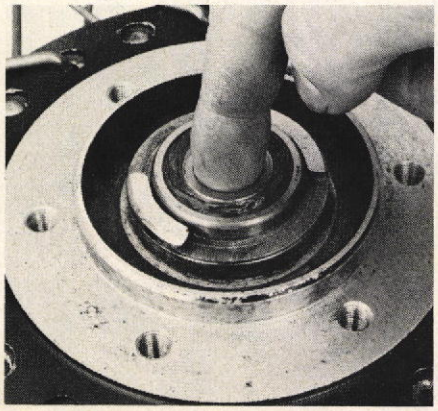

1

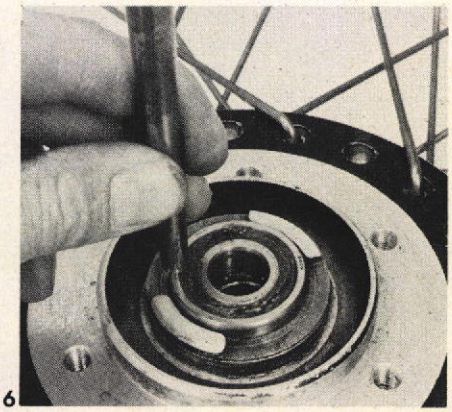

2



3


4


5


6

YAMAHA IT425

Open-class European enduro machinery has built up such an impressive reputation over the years that it appears no matter how hard the Japanese try, their bikes will inevitably be classified as "second-class" contenders. What will it take to vault them over this seemingly impenetrable wall? Will the Japanese have to literally clean house at every Two-Day event and bring home a cluster of National Championships to gain full respect? Well, Yamaha apparently thinks so, and they've prepared for such an onslaught this year by gathering up every enduro marksman they could grab: Larry Roeseler, Jim Fishback, Mike Hannon, John Fero, Ron Ribolzi and Rick Munyon have all signed Yamaha contracts in an all-out attempt to bore straight into the European stronghold.

Is Yamaha simply out to "purchase" a reputation with high-buck riders, or do they really feel they now have a sufficient arsenal of machines to back up their intention? Well, if the latest IT425G production bike is at all representative of the machinery they'll be using, Yamaha definitely has the equipment to drive the opposition right back into their foxholes. The 425G is indeed a weapon: taller and stronger than last year's 400F and one which hasn't relinquished an ounce of its fighting blood or versatility. Instead it has gained many benefits from its YZ motocross heritage.

Formerly known as one of the best equipped—and most detailed—enduro mounts to hit the battlefield, the big IT approaches the line this year dressed in a familiar but improved set of fatigues: The white fenders are thicker for increased strength; there's new FIM-styled sidecovers; a new one-piece headlight module shrouds a rectangular speedo that's rubber-mounted to a plastic perch; a tiny plastic dust/mud cover now protects the throttle housing. Naturally the IT-G has retained all the bread-and-butter features—like the folding shift lever and brake pedal, the aluminum skidplate, rim-saver rear tire and semi-quick-change wheel assemblies. It wasn't surprising that the clothing on our test bike remained intact through a month of punishing warfare; but when the new tank decals actually didn't bubble and peel off—that became a small but significant milestone for Yamaha!

The basic guidelines for the 425G giant killer were pretty much formulated last year when Yamaha gave the 400F a chrome-moly frame, steepened the steering-head angle a degree, stretched the front fork travel to nine inches and adopted the YZ-E monoshock's 8.2 inches of wheel travel. While this re-design gained a round of applause from most riders, the 400F still wasn't considered a threat to Huskies: the bike's weight taxed suspension heavily and the hot-shoes often found themselves gasping due to a seemingly over-damped, over-sprung monoshock which dished out more punishment than Muhammed Ali.

Yamaha didn't alter the IT-G's frame or steering geometry—which is good—and the bike still weighs-in at a rather chunky 266 pounds, but just one quick blast down a backwoods trail tells you that Yamaha has worked small miracles with suspension. Hidden inside the 425's frame tunnel is physically the same YZ-E steel-bodied shock used last year, but Yamaha has increased its stroke (through manipulation of the shock's internal collars) and boosted rear wheel travel from 8.2 to 9.8 inches. However, the most substantial improvement was gained by incorporating less internal compression damping and fitting a progressively wound spring (the 400F used a straight-wound spring). The fine tuning has produced a remarkable change: the suspension settles much easier, it's noticeably softer and more responsive over small, sharp obstacles. Furthermore the IT-G isn't nearly as prone to doing wild mule-kickers after smashing ruts and holes dead-on. The key to complete control of the 425 is this: Never hit a big bump—especially on a fast downhill—while sitting down with the throttle off; the monoshock has always needed power input to make it work. If in question—gas it! You'll live longer. As always the shock features rebound damping and preload adjustability (although you still must remove the shock for the latter) and Yamaha is, as usual, offering a lighter and heavier spring for those at the opposite ends of the weight scale.

What's really impressive is that Yamaha has managed to beautifully harmonize the monoshock with comparative improvements up front. Fork travel has been bumped from nine to 9.8 inches through the use of longer damping rods and sliders—and Yamaha claims they've still retained the required four inches of overlap needed for strength. The added fork travel has really helped to give the IT-G motocross stability at high speeds, but that's only half the story. Yamaha has fitted fork springs with a softer initial rate and decreased the rebound damping, which has greatly improved the fork's responsiveness over small, pesky bumps. We were amazed how smoothly and

PHOTOGRAPHY: RICH COX, KEN VREEKE, JOHN GATES

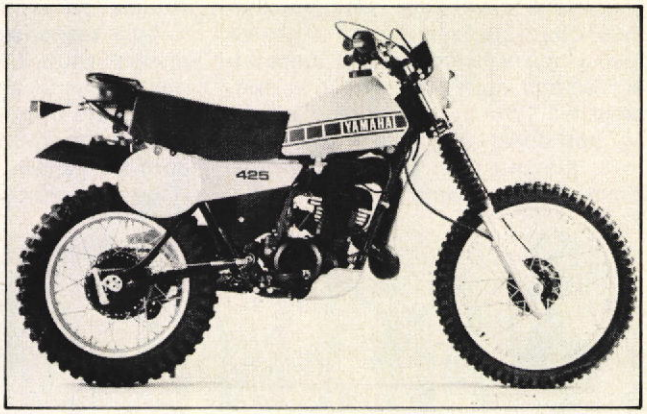
The Enduro Bike That Thinks It's A Motocrosser

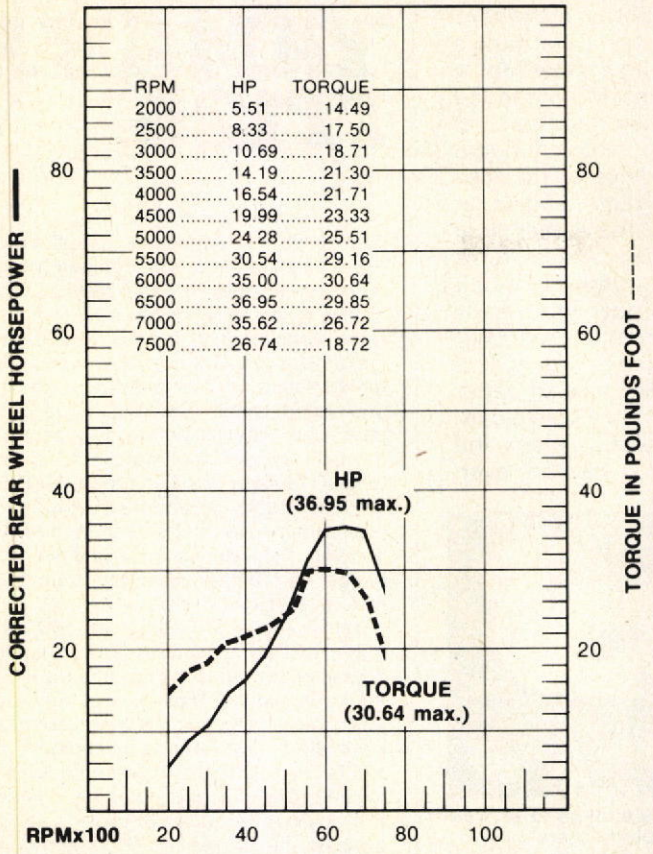
precisely the IT-G tiptoed through rock-cluttered streambeds, never once bouncing off a rock but rather rolling comfortably over it. The forks did acquire air caps this year, although no air assist is really needed; Yamaha recommends 2.5 pounds at the most. In fact the entire suspension system—just as delivered—seemed ideally suited for our 160-pound riders. The suspension bottomed only occasionally, and did so with a soft bump and not a bone-jarring crash. Some criticized Yamaha as "short-sheeting" the 400F in the suspension department, but that's definitely not the case with the IT-G.

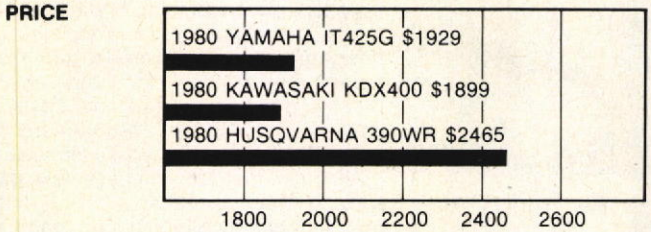
Surviving in enduro combat requires quick reflexes and hair-trigger accuracy—two fine points that are usually dulled by longer travel suspension. True, the IT-G's seat height has escalated to 36.5 inches (the same as Husqvarna's 390WR), but no side effects are apparent: The 425 still retains that cat-like responsiveness thanks to its rather short 56-inch wheelbase (also the same as Husqvarna's), its tight turning radius and spot-on steering geometry. If anything, the taller legs have actually benefited the IT's maneuverability in tight scrimmages in two ways: (1) Ground clearance has been increased 1.5 inches, giving the skidplate and the rider's feet more breathing room around potentially hazardous rocks and stumps; and (2) Because the suspension is providing smoother action, the 425 actually feels lighter, easier to manhandle and less tiring to jockey around. Of the open-class bikes we've tested, only the Husqvarna 390WR can straighten out a maze-like jungle path as effortlessly as the IT425.

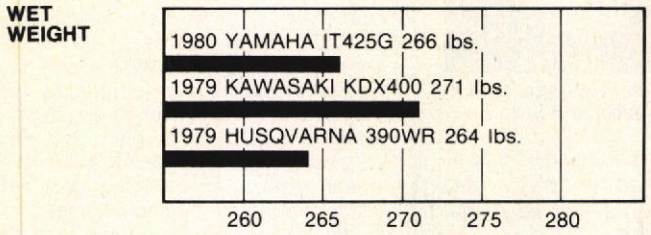
But Yamaha is still floundering on the fine line of acceptability in the deceleration category. The front brake is smooth and progressive in action, but barely up to the formidable task of stopping a rocketsled like the 425. Whether or not Yamaha will eventually adapt the YZ465's potent double-leading brake next year remains to be seen. Yamaha holds the same philosophy as Husqvarna by not fitting the IT-G with the YZ's superior (or so they've always been claimed) floating rear brake: the non-floater—which doesn't utilize a long torque rod—is simpler to maintain and not nearly as vulnerable to trail damage. Some will claim that during hard braking on choppy surfaces it produces wheel chatter—and it does—but the brake has an agreeable touch and won't lock up the wheel inadvertently. We'll live with wheel chatter to get the latter benefits anytime. Although the IT's engine has always been known as an excel-

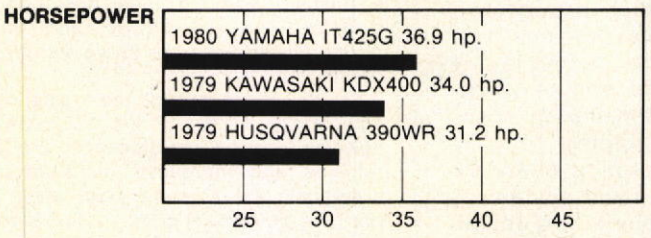
YAMAHA IT425

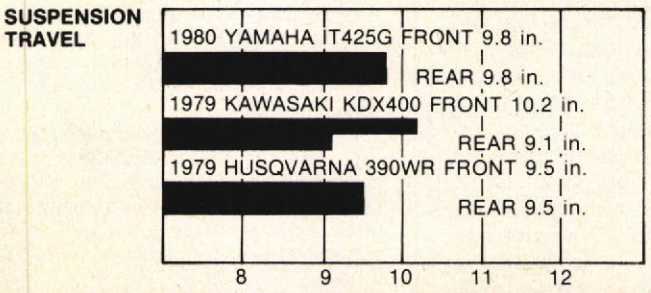












Suggested retail price	$1929
Warranty	None
Number of U.S. dealers	1600
Cost of shop manual	Included

ENGINE

Type	Two-stroke reed-valve single
Displacement	425cc
Bore x stroke	85 x 75mm
Compression	7.3:1
Carburetion	1, 38mm Mikuni slide-needle
Ignition	CDI pointless
Lubrication	Premix
Air filter	Oiled foam
Battery	None

DRIVETRAIN

Primary transmission	Helical gear, 2.608:1
Clutch	9 plates, wet
Final drive	⅝ x ¼ (No. 520) D.I.D. chain, 46/14,

CHASSIS

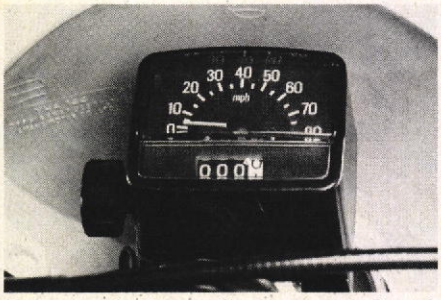
Fork	36mm Kayaba, 9.8 in. travel
Shocks	Kayaba monoshock, 9.8 in. wheel travel
Front tire	3.00-21 IRC GS-45X
Rear tire	5.10-18 IRC VE-21
Rake/trail	29.5°/4.8 in. (122mm)
Wheelbase	56.0 in. (1422mm)
Seat height	36.5 in. (927mm)
Ground clearance	12.0 in. (305mm)
Fuel capacity	3.2 gal. (12 liters)
Wet weight	266 lbs. (121kg)
Colors	Blue/white.
Instruments	Speedometer, tripmeter resettable by tenths

PERFORMANCE

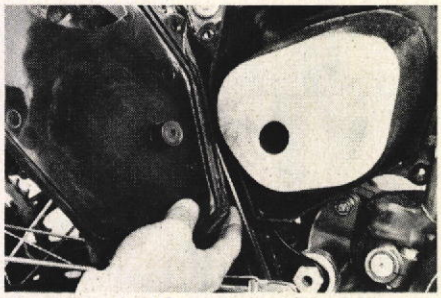
Power to weight ratio	7.2 lbs./hp
Mileage & approx. range	20 mpg average, 65 miles
RPM at 60 mph in top gear	5100
Speed in gears at (redline)	(6500) 1st 22 mph; 2nd 34 mph; 3rd 45 mph; 4th 60 mph; 5th 76 mph

lent amphibian, the brakes will drown quite easily and riders should tread cautiously for several hundred yards until they're dried out.

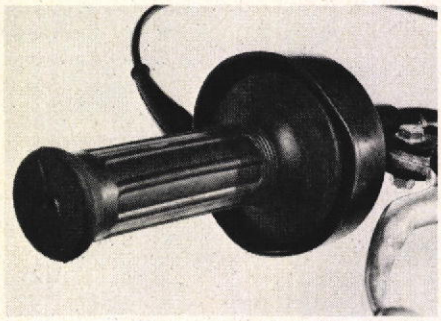
Yamaha gave the IT its major engine overhaul last year: the 400F received smaller, lighter YZ cases, heavier crank and flywheels, all-new gearbox ratios and a wider reed-valve and cage to complement the new long-stroke 82 x 75mm engine dimensions. The 400F was immediately characterized by its massive pulling power, which is still there after Yamaha upped the IT's displacement this year by ramrodding a boring bar down the engine's muzzle. Bore diameter is up from 82 to 85mm, jacking displacement to a full



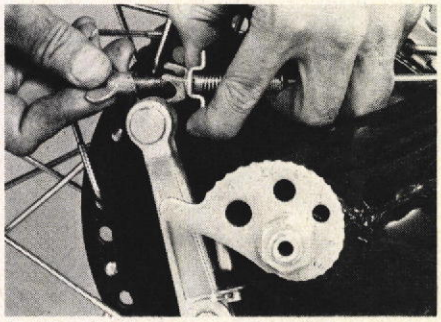
New speedo is excellently mounted and features an oversize trip reset knob.



The 425's air cleaner is a cinch to service compared to the YZ motocrossers'.



This new mud guard around the throttle really helps keep dirt and muck out.



IT425 still has the quick-release brake rod—a trick feature for serious riders.

425cc. Naturally Yamaha adjusted the porting and balance factor to coincide with the larger bore. There are two small improvements: the crank pin is now knurled on the ends to prevent slipping in the wheels and the headpipe has been raised 40mm for more ground clearance (a major complaint last year). Otherwise the engine internally mirrors the 400F.

The 400F's engine had always been considered the elite of the Japanese fleet. Its muscle was awesome compared to others in the class, its power delivery was incredibly smooth and it could take the meanest beating without a whimper. If you can imagine, the 425G's engine is all this and more. The 425 pumps out a hair more horsepower and torque on the dyno than the 400 through the entire powerband, but the impressive figure is at the very bottom of the scale: The 425 churns out a hefty 17.59 pounds of torque at 2500—the 400F only made 12.59. That relates to tremendous chugging power down low. The IT-G has such guts it can turn a 90-degree corner and claw up a treacherous mountainside—in second gear! There's very little need for first gear, or slipping the clutch for that matter. Some butterfingered novices will likely be stalling the engine at slow speeds due to the rather light flywheel inertia, but these light wheels do provide lightning quick throttle response. A rider can nearly always vault the front wheel over obstacles—in any gear—with just a blip of the throttle. Because of better suspension and the new IRC Volcanduro tire's claw-like tread pattern, the IT gets incredibly good traction, even in the slop. You won't experience another enduro engine that's as overwhelmingly powerful, yet so mild-mannered as the 425G.

But piloting a bullet through the woods does have its shortcomings. You'll have to get used to the IT-G's noticeable degree of engine vibration. And the 425 remains an absolute gas guzzler, gulping roughly three gallons of gasoline every 60 miles. Yamaha's current system of chain guides, tensioners and rollers works well, but its durability is questionable and it requires more maintenance than would be ideal. The tensioner pivot point must be cleaned often (or it won't pivot freely) and we noticed the small plastic roller—which protects the swingarm pivot from being eaten by the chain—was worn halfway through with only 200 miles on the bike. We're sure Yamaha has some plans in the future to move the swingarm pivot closer to the counter-

YAMAHA IT125

Ever since the Japanese manufacturers dove headfirst into the competitive enduro market, they've been catering more or less to the experienced rider with little or no consideration for the up-and-coming shortcakes of the enduro world. Had the manufacturers forgotten that young—and often small—aspiring enduro-ites must learn to walk before they can run? It would appear that way, but not any longer. Yamaha has just added the IT125 to their stable of enduro machines, a bike which will ultimately inspire the budding Dick Burlesons and help them bridge that tremendous gap from minibike to full-blown racer.

Yamaha isn't projecting any ISDT victories for the miniature IT, but instead characterize it as a playful enduro mount for lonely wives, blossoming teenagers and speed-hungry small fries. But don't be misled by Yamaha's modesty; the 125 is bred right along the same lines as the full-sized ITs and has semi-competitive qualities throughout. Like its serious brothers, the 125 sports D.I.D. alloy rims, front fork gaiters, folding brake and shift levers and an aluminum skidplate. The headlight module, speedo and front fender are identical to those on the IT425 and the bodywork—tank, FIM sidepanels, seat and rear fender—are tailored IT items, only on a smaller scale.

Although the 125 shares a few parts with existing Yamahas—the full-width front hub and tubular steel swingarm are from the street-legal DT series and the rear hub and brake assembly are YZ125F holdovers—the IT is really a brand new model with certain traits molded in specifically for enduro work. For example, the six-speed engine is basically a YZ125F powerplant, but Yamaha has added the heavier external flywheel ignition, shuffled the gear ratios inside the tranny, fiddled with reed-valve thickness and internal porting, and fitted a smaller 30mm carb—all designed to give the IT a wider powerband, more pulling power down low and a less-hyper personality.

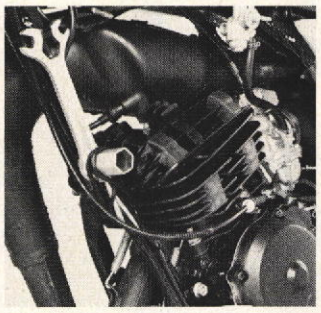
As you might expect the frame configuration is similar to the 125F MX'er; however Yamaha has quickened the IT's reflexes and increased its agility by steepening the steering head angle by one degree and shortening the wheelbase by two inches. The IT threads its way through close quarters easier than the motocrosser and the fact that it weighs only 14 pounds more gives the IT a distinct advantage over other so-called "play enduros."

Yamaha could easily have fitted the bike with the YZF's mountainous nine inches of suspension, but in order to keep the seat height at a respectable level and the overall price tag within a bus-boy's reach, Yamaha intentionally

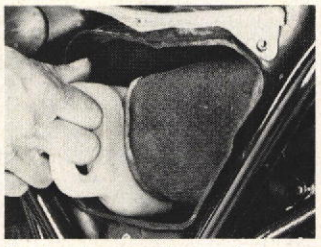
limited the wheel travel to seven inches in front and 7.9 inches in back. The steel-bodied monoshock features only pre-load adjustability (no damping adjustment) and there is no air assist for the forks, two obvious cost-cutting shortcomings that shouldn't be of much consequence considering the audience this bike is intended for. The suspension, which is comparable to that used on the motocrossers some two-to-three years ago, is ideally suited for those lightweights weighing under 140 pounds and will provide good stability at moderate clips. However, our 160-pound staffers had little problem literally bashing the lightly sprung suspenders to their stoppers even at cruisin' speeds. The 125 has the suspension to oblige the most radical small-fry or those grown-ups who simply like to trail ride, but those bordering around 145 pounds—and who really sizzle—would be better off jumping to the more sophisticated 175 class.

The IT is a beautifully tailored little enduro mount that stops and steers accurately and handles better than any of those Japanese counterparts which claim to be in its class. However the IT's lightning quick speed is what's truly impressive. With no exaggeration, it's the quickest 125 we've ever ridden outside of a full-race motocrosser. Yamaha claims the IT pumps out horsepower figures nearly equivalent to the YZF motocrossers' 20 plus—and it was clearly evident they weren't strokin' us. The little squirt out-accelerated and easily outclimbed a Suzuki TS250 we tested with it. Like most small-bore two-strokes, most of the IT's power is concentrated at high rpm, so the IT must be termed somewhat pipey, but once the revs die the engine doesn't fall flat on its face—it just gets progressively slower, requiring just a quick slip of the clutch or a lower gear to bring the power back on tap instantly. However, once the engine is on the boil, it's as potent as most street-legal 250 enduro mounts.

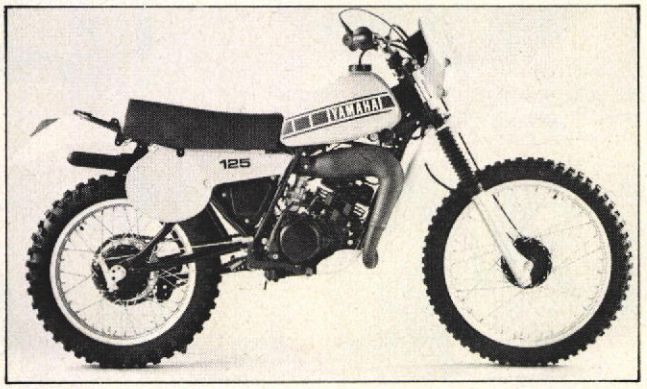
In reality the IT125 is more performance orientated than Yamaha led us to believe. Total novices to small-bore bikes will likely find it difficult mastering the IT's power delivery and might be happier with a small four-stroker's torquier personality. But if you're a hot minibike graduate looking to step up into a real thriller, the IT125 is the rocketship you've been waiting for.



This cleverly mounted combination wrench will twist just about every nut on the bike.



A simple plastic wedge secures the 125's air cleaner in place; it makes servicing a breeze.



Suggested retail price	$1169
Warranty	None
Number of U.S. dealers	1600
Cost of shop manual	Included

ENGINE

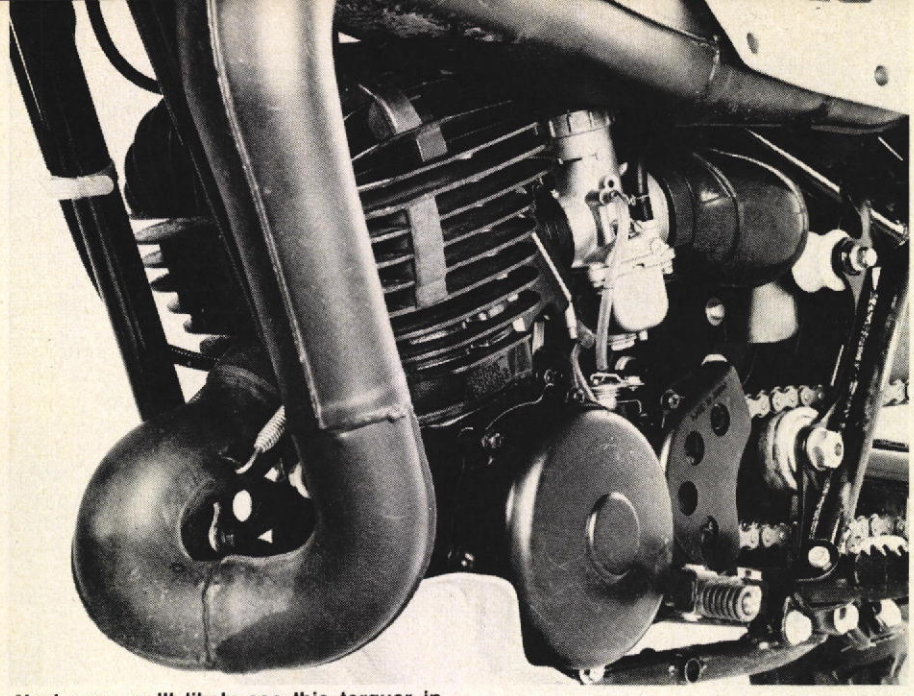
Type	Two-stroke, reed-valve single
Displacement	123cc
Bore x stroke	56 x 50mm
Compression	8.1:1
Carburetion	1, 30mm Mikuni slide-needle
Ignition	CDI pointless
Lubrication	Premix
Air filter	Oiled foam
Battery	None

DRIVETRAIN

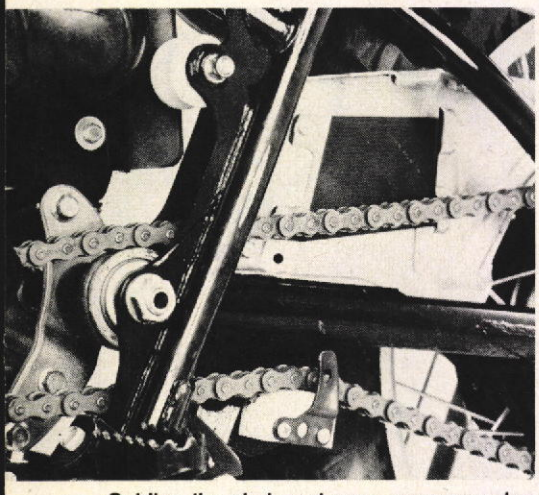
Primary transmission	Helical gear, 3.227:1
Clutch	10 plates, wet
Final drive	⅝ x ¼ (No. 520) D.I.D. chain, 46/12

CHASSIS

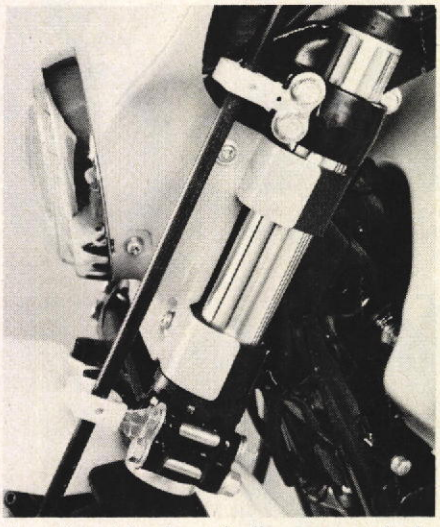
Fork	32mm Kayaba, 7.1 in. travel
Shocks	Kayaba monoshock, 7.9 in. wheel travel
Front tire	3.00-21 Bridgestone M21
Rear tire	4.10-18 Bridgestone M20
Rake/trail	28.5°/4.72 in. (120mm)
Wheelbase	53.75 in. (1365mm)
Seat height	34.0 in. (864mm)
Ground clearance	12.0 in. (305mm)
Fuel capacity	2.2 gal. (8.3 liters)
Wet weight	218 lbs. (99kg)
Colors	Blue/white
Instruments	Speedometer, tripmeter resettable by tenths



Next year you'll likely see this torquer in a new single downtube frame like those used on the current MX'ers and IT175.



Guiding the chain got even more complex with the addition of a top roller and a plastic rubbing card on the chain guard.



A replaceable clear plastic cover protects the headlight. Brake cable guides don't pop out now—they're riveted in.

shaft (as they have done on the motocrosser and the IT175) which will help solve this problem.

Those of you who have sampled the YZ465G's foot-long suspension will quickly realize that there's still plenty of room for improvement in the IT-G—which we're sure Yamaha is saving for next year. But as it stands right now, the IT-G's suspension is about 30-percent better than last year's and has given the IT plushness and stability equal to any of its competitors. And the IT-G's engine is, without question, the best in the business; you won't find one any more powerful or any easier to tame anywhere. Has Yamaha hit the bullseye? Well, let's just say that if you can't gun down the competition with the IT-G "endurocrosser," perhaps you should contact your local ophthalmologist. *M*

Off The Record...

I have ridden a half-dozen good open-class enduro bikes, and the IT425 is one of them, but I have *never* ridden a machine so amazing as the little IT125 featured elsewhere in this test. Here's a bike allegedly built for wives and teenagers that carried me, a 225-pound monster, over every trail and up every hill I tried, no matter how steep or gnarly. The tiny IT was in fast company—three YZ465s and the IT425—yet it was never humiliated. It even set the pace on a couple of tight sections between the trees. Sure, the suspension clanged under my bulk, but accurate steering and 20 genuine horsepower kept the big machines in sight all day. Any boy or girl who wants more than a minibike, but not quite a big-bike will love the IT125. It's amazing.—*Dale Boller*

After riding the latest Maico, Can-Am and Kawasaki big-bore enduros, I'm inclined to say that the IT425 is the only package really capable of challenging Husqvarna's reigning supremacy in the open class. But that statement would be a bit premature for one very good reason: Suzuki is still waiting in the wings with their yet-to-be-revealed PE400T, a machine we know will be excellent; the question is whether or not it will be *superior*. Although I haven't ridden one, I have seen one in action, Mark Blackwell, Suzuki's race-team manager, was riding a PE prototype in a recent trip down the Baja peninsula. From what I saw and overheard, the 400 is well-suspended and won't be as weak-lunged a performer as the original PE250 was. I could tell you right now that I feel the Yamaha is the best overall buy on the Japanese market, but then Suzuki might just make a liar out of me in the next couple of months. As a buyer I'd just sit on my hands and wait.—*Rich Cox*


SOME REFUSE TO WEIGHT AROUND.
He feels on top of the world behind his 1980 GF-1 Fairing, because it's narrow enough to be stylish, yet protective enough to be functional. And he knows that because the GF-1 Fairing and SB-27 Saddlebags are constructed of pressure molded fiberglass, they're both light enough not to be cumbersome yet strong and beautiful enough to be called Shoei.
The Shoei GF-1 Fairing and Detachable SB-27 Saddlebags: Because there are some who won't weight around for anything.
SHOEI
Shoei Helmets. 1717 Pontius Street, Los Angeles, California 90025
Send $10. for T-Shirt, decals and catalog of Shoei wearing, and touring accessories/apparel.

This new thumper

Ride with care. Always wear a helmet and protective apparel. Ride only where authorized and respect the environment.


is one tough rabbit.
Ever wish somebody made a 4-stroke single with the quickness of an RM and the agility of a PE?
Wish granted. Meet the new DR-400.
And new it is. New engine. New chassis. New suspension. New styling. New everything.
For starters, it has a new compression release device. So the big 4-stroke powerhouse can be fired up with ease.
Once started, this machine handles easy, too. Fact is, it'll eat up anything a rough chunk of land can dish out. Because its new suspension system is pure beef. Strong, steel boxed swing arm. Gas/oil shocks. Leading axle front forks. Over 9 inches of travel in front, over 8 in back.
Besides all that, there's all this: New works roller-type chain guide, PEI ignition, aluminum skid plate, full knobbies and enduro-type lights.
Sound like a tough, serious bike? It is. After all, thumper fans are tough, serious riders.
SUZUKI 1980
The Performer.
Member Motorcycle Safety Foundation


R.C.
Mallory
R.C. Eng.
R.C.

QUALIFIED?

I'm Russ Collins and I figure that's the big question when you're looking at high performance exhaust systems. Do the guys who make them know what they're doing? Did they pay their dues? Are they qualified?

Are they making total performance systems? Or are they just bending tubes.

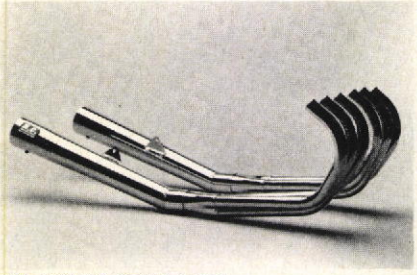
For over 20 years now, high-performance has been our living. Back in 1969 we built the first 4-into-1 collector system for a motorcycle. And it's gone on to include a string of Team R.C. records the other guys would like to match. If they knew how.

Total performance means more than a system that looks good, or sounds trick. It means increased horsepower. Improved fuel efficiency. Reliability. Quality. And compatibility with the full range of R. C. high performance equipment, including big bore kits, cams and valve springs, rods, clutches, carbs, ignition systems and the list goes on.

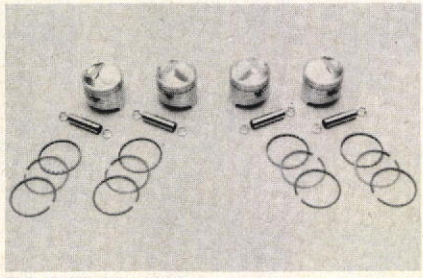
Qualified? Damn straight we're qualified. We'll run our products heads up with anyone. Anywhere. Anytime. That's what made Team R. C. —Teson/Bernard, Vance/Hines, Russ Collins and The Sorcerer.

If you own a high performance motorcycle, you want a true high performance system. And that's all we make.

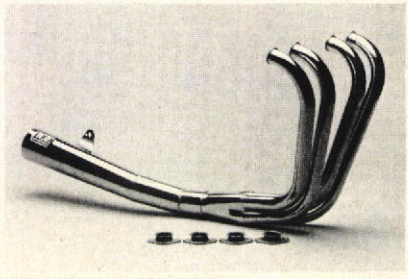
Join the only team that's qualified. Join R.C.



R.C. HONDA CBX 6-into-2 COLLECTOR EXHAUST SYSTEM
Better breathing for Honda's wildest rocket. Cuts pounds. Boosts mid-range punch, overall response. Street legal in all 50 states.
R.C. Part #0990—$299.00



R.C. BIG BORE KITS
High-performance for street or strip. No cylinder head mods necessary. Includes four competition-type forged silicone aluminum alloy pistons with rings, wrist pins and aluminum alloy buttons.
R. C. Kits—$224.00 (CBX higher)



R.C. YAMAHA XS11 4-into-1 COLLECTOR EXHAUST SYSTEM
Improves power characteristics, reduces weight, increases cornering clearance. Available in deep chrome or black finish. Street legal in all 50 states.
R.C. Part #0997—$199.95

THESE PARTS AND MORE ARE AVAILABLE FOR 650-1100cc 4-CYLINDER HONDAS, SUZUKIS, KAWASAKIS, AND YAMAHAS. CBX'S TOO.

ORDER TOLL FREE
(800)-421-2715
DIAL (213)-327-6858 FROM CALIFORNIA
VISA, MASTERCHARGE ACCEPTED

RC ENGINEERING

OUR SKILL IS A MATTER OF RECORD
R. C. ENGINEERING • 13300 Estrella Ave. • Los Angeles, CA 90248

Taste country fresh Salem

Light mountain breezes. Clear, rippling waters. And country fresh Salem menthol. That's satisfaction.

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

KING: 16 mg. "tar", 1.1 mg. nicotine, 100's: 20 mg. "tar", 1.4 mg. nicotine, av. per cigarette, FTC Report DEC. '79.

BEST USED BIKE BUYS

By Jeff Karr

Your Dream Machine Might Be In Someone Else's Garage

If you're in the market for a new bike, you've undoubtedly found that their prices are a bit steep. Maybe too steep for your bank account or for the interest on a loan shark's deal. There's only one alternative: a used bike.

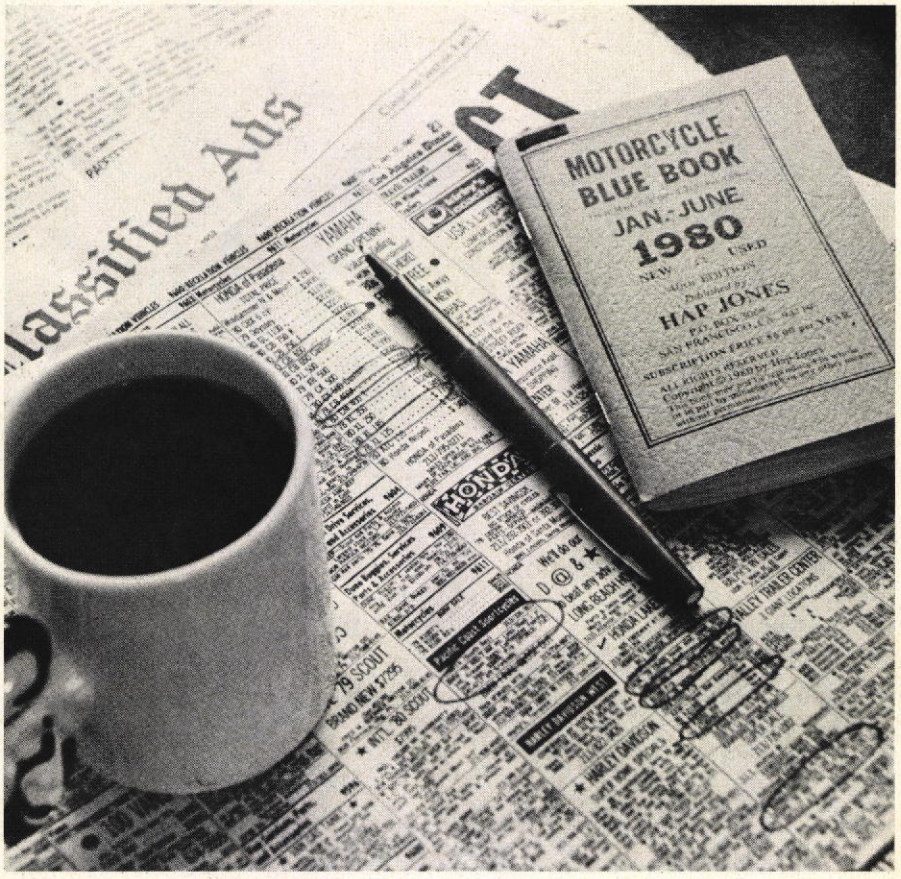
There are a lot of used bikes that are every bit as exciting as the newest monster bikes. Many are just as reliable too.

What we have here is an assortment of good used bike buys. Some are included because of their near bullet-proof durability, like the Honda CB360 and Suzuki two-stroke 500 and 750, while others made the list due to their sporting character, like the Kawasaki KH500 and the Yamaha and Honda 400s. All the bikes on the list are good motorcycles at good prices. This is not to say that these are the *only* good used bikes, or that every last example of a model on the list will be stone reliable and bargain priced. Instead, this list is intended to be a starting point and a source of ballpark price figures. All of these bikes should be relatively reliable, provided they've been well maintained and don't have too many miles or crashes on them. High-milers can probably be brought back up to near new condition with a tune-up and a top-end job. The four strokes might also require a valve job and adjustment. The need for further or more extensive mechanical work should be your cue to hit the road and look for another machine of the same model. Also beware of bikes which have been hopped up or heavily customized.

The prices here are the average retail prices as listed in the latest Hap Jones Motorcycle Blue Book. The price for a particular model will vary with the location and condition of the machine. The seller is in no way bound to observe these prices.

Most of the machines listed are 1975 or newer models primarily because the Blue Book rarely goes back past '75. Also, bikes much older than this tend to be a little too battered to be very reliable, so they didn't make the list. This doesn't mean that older bikes in good shape don't exist; it's just that they're the exception instead of the rule.

If you're interested in some of the street-legal dual-purpose bikes listed, watch your step. These machines usually get much rougher treatment than a normal street machine and in many cases have spent much of their useful lives bashing into rocks and laying on their sides. And, if you're after a full-fledged dirt bike, you're on your own. Since dirt bikes lead a hard life, each machine must be judged and priced individually.



PHOTOGRAPHY: JEFF KARR

Model	Year	Price
BMW R75	1976/'77	$2260/2520
Can-Am 175 TNT	1977/'78	$720/850
Can-Am 250 TNT	1977/'78	$790/870
Ducati 750GT	1973	$1000
Ducati 860GT	1976	$1100
Harley-Davidson FLH	1974	$2660
Harley-Davidson FX1200	1973	$2050
Harley-Davidson XLCH	1972	$1490
Honda XL125	1976/'77	$380/450
Honda CB/CJ360	1976	$520
Honda CB400F	1977	$800
Honda CX500	1978	$1490
Honda CB750K	1976/'77	$1360/1520
Honda GL1000	1975/'76	$1780/2070
Kawasaki 175F7	1975	$350
Kawasaki KH500	1976	$800
Kawasaki KZ650	1977	$1280
Kawasaki KZ900	1975/'76	$1430/1580
Suzuki TS185	1976/'77	$400/470
Suzuki GT500	1976/'77	$690/775
Suzuki GT550	1976/'77	$840/1020
Suzuki GS550	1977/'78	$1040/1340
Suzuki GT750	1976/'77	$1150/1350
Suzuki GS750	1977	$1350
Triumph T100R	1974	$680
Yamaha DT175	1976	$375
Yamaha RD200	1975/'76	$360/410
Yamaha RD400	1976/'77	$590/710
Yamaha XT500	1977/'78	$800/900
Yamaha XS650	1976/'77	$860/1040
Yamaha XS1100	1978	$2300

Prices quoted are from The Hap Jones Motorcycle Blue Book, Copyright 1980. Reprinted by permission.

IN PRAISE OF OLDER STREET BIKES

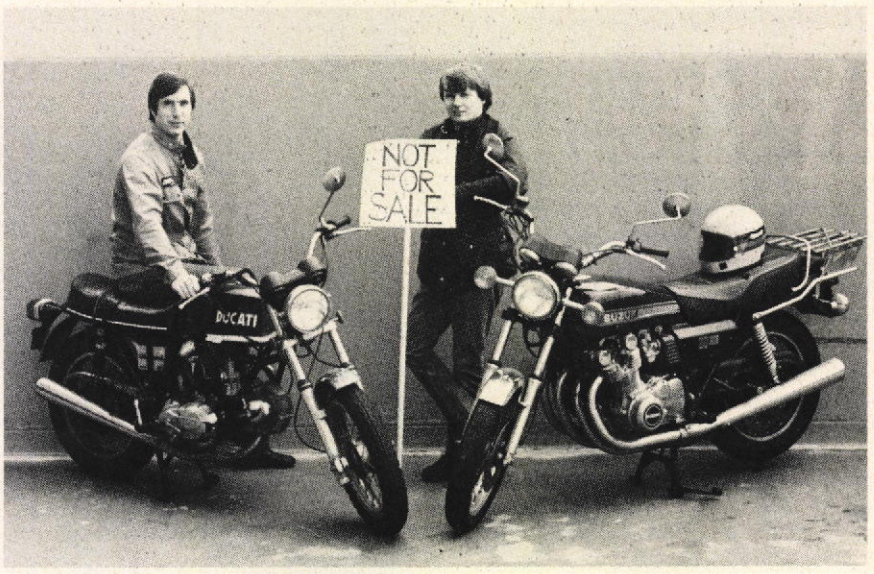
By Art Friedman

That 1975 Bike Isn't Getting Older. It's Getting Better

This isn't an ode to the charm and charisma of antiques and classics. It's just a few words to point out some of the practical advantages of some street machines built two to ten years ago. Both Dale Boller and myself have less-than-new street bikes which we treasure. Dale's is a 1973 Ducati 750 GT. Mine is a 1978 Suzuki GS1000C. I can't vouch for why Dale keeps his Duck, but I know why I value my GS.

I bought it a couple of years ago before leaving another bike magazine to come to *Motorcyclist.* The GS1000's life had started when that magazine's editor threw it down Suzuki's test track at speeds ranging from 50 to 90 mph, depending on which telling you wanted to believe. Suzuki repaired and shipped it to us to complete our test. It stuck around for 15,000 of the most abusive possible miles, asking only for fresh tires and clutch plates and a couple of tune-ups. Its history and appearance certainly seemed less than promising, but it felt strong and tight. So, to my undying pleasure, I bought it.

I liked the GS1000 and I was particularly attracted to that vintage for several reasons. For one thing, it was a 1978 model—manufactured in 1977, out of reach of EPA requirements which only apply to bikes manufactured in 1978 or later. Therefore, if I ever want a set of hairy cams and big carbs or if I decide to take off the airbox and rejet, I won't have to worry about running afoul of smog laws. Because it didn't have to be jetted leanly, I can turn off the choke 15 seconds after starting it in the morning. Most 1980 bikes require two or three minutes of choke. Low-speed throttle response is stronger than a new bike's and I'm not subjected to the lurchiness that goes with the constant-velocity carbs used on most 1980 models. Best of all, it's *fast.* This bike ran 11.79 seconds in the quarter-mile. Later GS1000s wouldn't get under 12.1 seconds. Nor can I imagine the later models getting better than the 48 to 51 mpg I get when riding moderately.



My 1978 model wasn't compromised by other bureaucratic fancies either. I can turn off the lights with a flick of my thumb. All 1980 machines have locked-on headlights. Although it doesn't matter much to me, I'm not stuck with an 85-mph speedometer either.

Finally, the 1978 bike arrived before certain styling trends—most of which I find mildly objectionable—took hold. The 1978 model had a nice flat, well-padded seat, not the current stepped item which limits seating position. To my mind, the primary advantage of cast wheels is their ability to accept tubeless tires, but Suzuki still doesn't use tubeless tires on their 1980 bikes. My alloy-rimmed wire-spoked wheels each weigh about two pounds less than a cast wheel with a tube tire, giving me a slight improvement in ride. Suzuki's cast rear wheel is also a fashionable 17-incher. My 18-incher gives me a bit more cornering clearance.

I don't have the self-canceling turnsignals, dual-disc front brake or the electronic ignition of the '80 model. However, I have installed the quartz headlight and I can fit an electronic ignition and dual discs for less money than it would take to get the old bike's performance and comfortable ride.

Of course, the GS1000 model-year variations aren't necessarily typical. The changes made to new models vary. The Honda CB750F has gotten slower but better-handling between 1979 and 1980. The same is true of the CBX. The Hawk has a six-speed now and new styling, but slightly less power. The 1980 Yamaha XS1100 has most of the speed of the made-in-1977 model (which was much faster than the '78 or '79 models) and improved handling. The 1980 Suzuki GS550 is faster than ever, but has lurchy carburetion. The new GS450 is much better than the old GS400 and 425. Some nice older models like the Yamaha RD400, the Honda CB400F and later Suzuki GT750s, are no longer available in any form.

Motorcycling may be at that point which cars reached ten years ago, where the engineers must hustle just to keep up—or stay barely ahead—of the compromises dictated by the government. All old motorcycles are not prizes and all old models are not necessarily better than new ones. But there are instances where compromises have been made, either by choice or edict. So beneath the fading exteriors of those used bikes lurks an occasional special machine. Dale and I think we've got a couple of them.

PHOTOGRAPHY: JEFF KARR

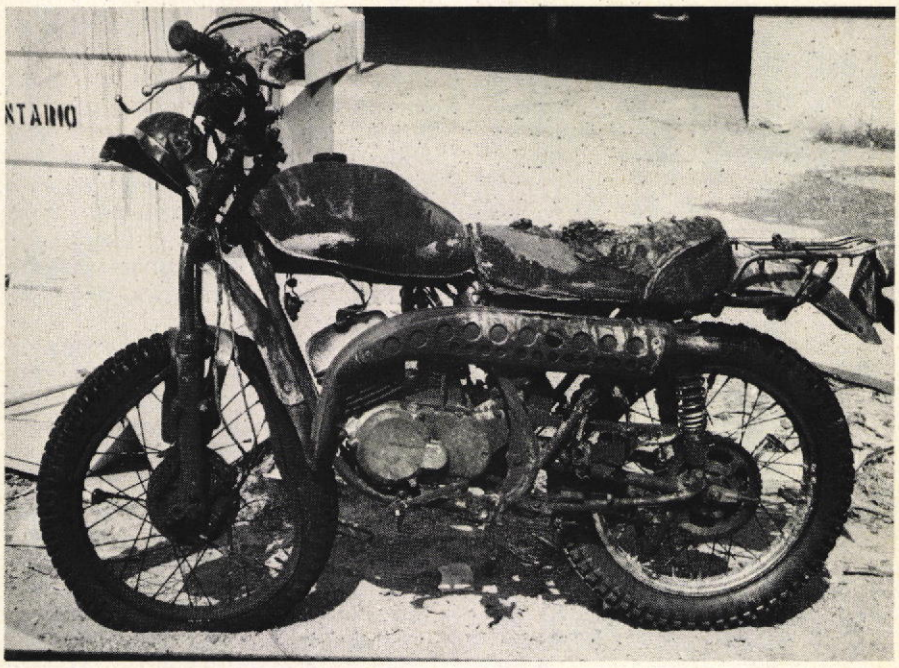
UNLOADING OL' PAINT

By Jeff Karr

How To Get The Most Money When Selling A Used Bike

So you've finally decided to unload your old scooter. For whatever reason, it just doesn't thrill you like it used to. You've got the hots for a new motorcycle, so the old one has to go. But what's the best way to get rid of it? How do you make sure you're getting top dollar for your used bike?

Answering these questions will take a little research on your part. As far as the used bike market is concerned, few generalities can be made. There is no sure-fire way to get the most money out of your bike, since there are so many variables. Your bike could sell overnight for a premium price if advertised in one city but be a real dog on the market in another. The same unpredictability goes for trade-ins too. What one dealer is happy to take off your hands, might be out of the question to another.



No matter how you decide to try to sell, there are a few things you can do to give yourself a bit of an advantage. Probably the most obvious (and important) is to give your bike a thorough going-over. Invest plenty of time and elbow grease on cleaning and polishing. Most prospective buyers will stop dead in their tracks when confronted with a grimy grease-cycle, even if the bike actually runs fine. You should replace or fix any damaged or crashed parts, provided the cost doesn't get too high; depending on how much the bike is worth, spending much more than $50 to $100 isn't always a good idea. Rarely will you recoup much money invested beyond this figure. But the most visible and obvious damage *must* be fixed, for it will reduce your bike's value the most. But remember, the more little quirks and non-functioning parts you must explain away, the smaller your chance of unloading the old scoot at a premium price. Next, perform the manufacturer's recommended service and make sure you get the maximum mileage out of your effort by telling prospective buyers you have done so.

If you've been saving any service or replacement parts receipts, bring them out to impress buyers with your religious maintenance practices. Of course, these service orders *could* reveal a history of gearbox failures, too. Finally, try to get the machine back as close to stock as possible. Somewhere there's a person who'd love to have your bike just the way you've modified it. But the chances of finding him are awfully slim. To the rest of the buyers, your custom seat is going to be ugly or uncomfortable, or those swell highway pegs are going to be in the new owner's way when splitting lanes. Maybe the prospective buyer is interested in Gold Wings, but not when they have clip-ons—like yours. Most dealers find that even big, used touring bikes are somewhat harder to sell when they are fitted with fairings, bags and scootboots. You might come out farthest ahead if you take all of that stuff off and sell it separately; just make sure that everyone who checks out the bike gets a look at the accessories too. You might just get lucky and pull off a package deal that gets you a higher total than if the whole bike was still in one piece.

Now that your motorcycle is ready to be sold, what's the best way to unload it? You really only have three options: You can sell it yourself through newspaper classified ads or other forms of advertising; you can trade it in when you buy your new bike from a dealer; or you can give it to a dealer to sell on consignment.

If you have unlimited time and patience, you can probably get the most money for your bike if you sell it yourself. The only real media exposure available to the average person is local newspapers and whatever public bulletin boards you can find. If your local paper is very small, you might try running your ad in bigger papers in nearby towns. If your bike is particularly exotic, advertise in a motorcycle newspaper like *Cycle News* to reach more enthusiasts.

Selling your bike yourself has several drawbacks. Advertising costs money, so if your bike turns out to be a slow mover, this can turn into a major expense. The time factor comes into play also. Selling it yourself leaves you chained to your phone for numerous evenings and weekends. Then when prospective buyers finally do show up, there's no telling whether they really have the cash, or are casing your house for tomorrow night's burglary. In any

case, you'll have to give them the big sales pitch. Some of us are good at that and enjoy it, while many others aren't. It's easy to begin stretching the truth a bit in the hopes of closing the deal, but try to keep yourself under control. After all, the potential buyer is a motorcyclist also.

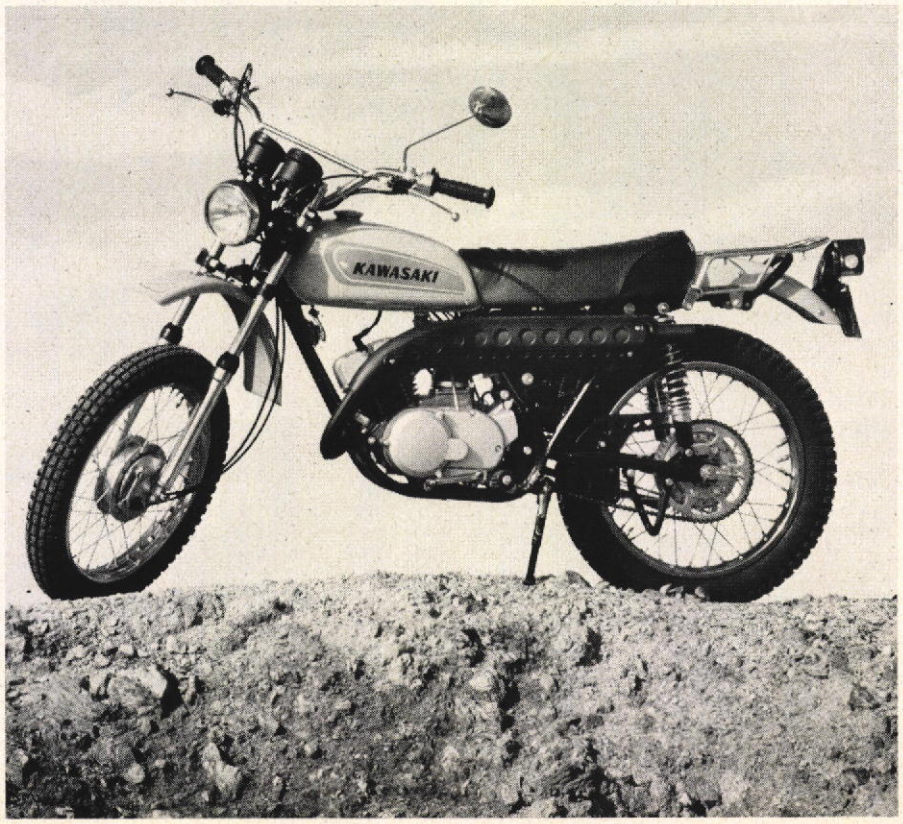
The biggest drawback to do-it-yourself selling is the inevitable test ride. You can tell them no and risk losing the sale, or you can turn them loose for a hot lap through the neighborhood. You can be sure that they'll uncork that glistening beauty to "see what she'll do." This presents all sorts of liability risks to you should the test ride come to an abrupt end against the grill of a Peterbuilt. On the other hand, you could face a total loss should the guy take a permanent test ride—like into the next state. You can hang onto his wallet, car keys, mortgage papers and young daughter while he rides—but these items just might be stolen too.

If you don't feel at ease dealing with these possible problems, maybe you should resign yourself to trading your old bike in or selling it on consignment through a dealer. You'll likely net less money than if you pull off a shrewd do-it-yourself sale, but you'll save a good deal of time and hassle. Plus, you eliminate the possibility of the new owner coming after you if your scooter takes a big dump right after he buys it.

Not all dealers are willing to take your old bike in trade. Most of those who do are usually willing to negotiate a bit over its value. Depending on how badly they want to move their new bikes, they'll probably come up from the wholesale value of your used bike. If the dealer's assessment of your bike's value is much lower than yours, realize that he needs to gross several hundred dollars when he re-sells your bike, since most states' consumer laws require him to fix the bike if something goes wrong right after it is sold. Some dealers even offer 30-day-or-longer guarantees on the used bikes they sell, so he needs to make a solid profit on your bike to cover his expenses.

Some dealers will also sell used bikes on consignment. All you do is give him your bike and he sells it for you. The terms of the agreement made beforehand are usually pretty flexible. Either the dealer gets a predetermined percentage (usually 10 to 15 percent) of the final sale or you agree on the amount of money you want for the bike and the dealer keeps anything beyond that amount. This system saves you a lot of hassle, but won't work for you if your bike is your only transportation.

Whatever way you select to dispense of your old motorcycle, be sure to weigh all of your options carefully. And if your plan involves a dealer, be sure to shop around and compare—a better deal could be just down the street. You've probably heard the saying "buyer beware," but, as you've probably figured out, the seller must beware also. *M*



THE 1980 INTERNATIONAL TRIALS BIKES: WITH EVERY ONE YOU BUY, YOU GET A FREE YZ.

The 1980 IT's have plenty of guts—the guts of our famous YZ motocrossers.

Our IT bikes are YZ's designed to go off the beaten track. And keep going, come mud, mountains or molehills.

The IT175 is the most advanced enduro machine available. Together with our IT250 and IT425 they are the most tricked-out, competitive line of International Trials bikes one manufacturer has ever unleashed.

RIDE A BLUE STREAK.

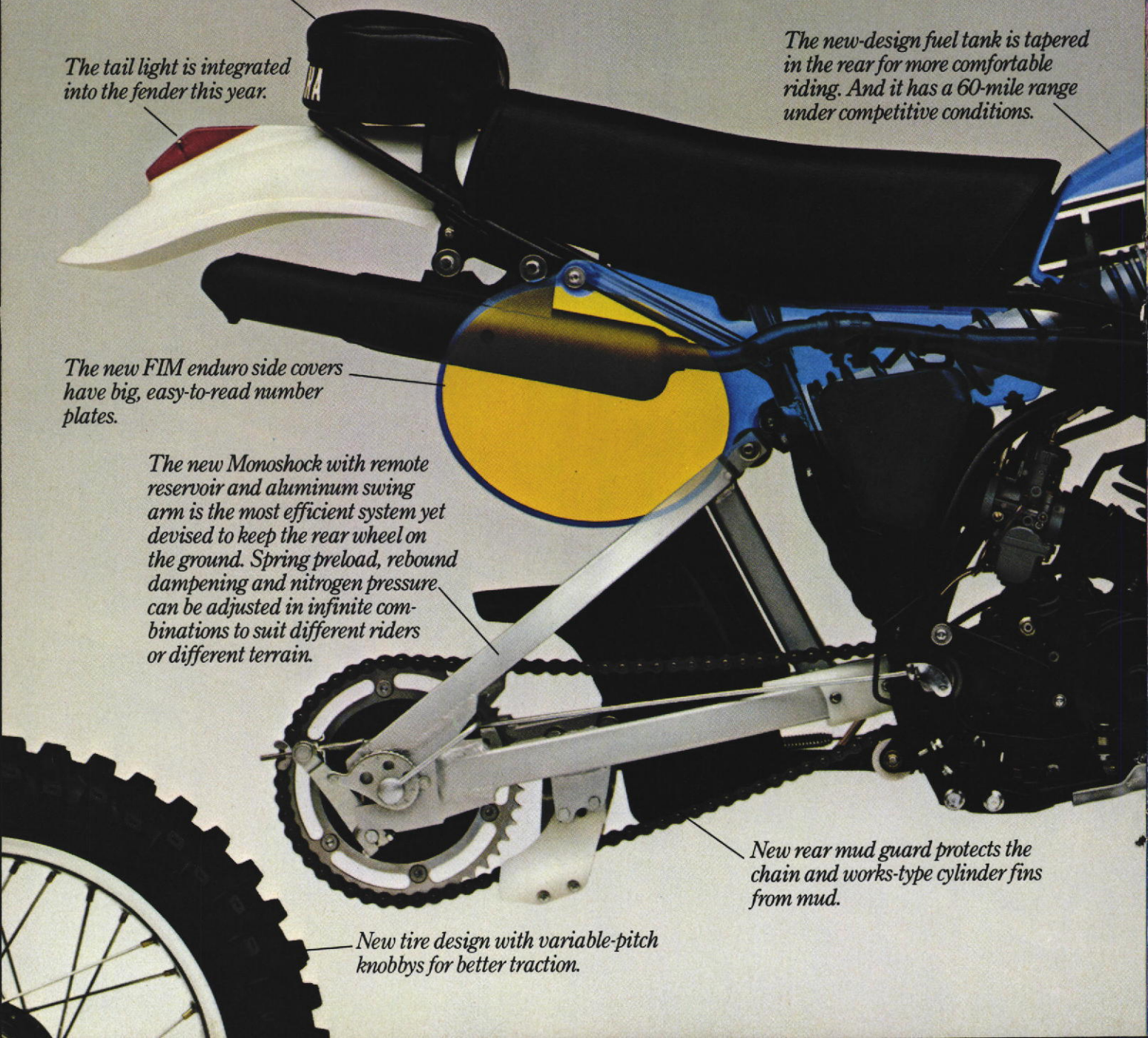
The IT175's engine, suspension and frame were born on the race track and bred to conquer the rest of the world.

Powering the 175 is an expanded, 171cc version of the YZ125's muscle. With Yamaha's unique Torque Induction. CDI ignition. And Yamaha's exclusive Powerjet carburetion that atomizes fuel better at low rpm's, providing crisper response and improved fuel economy.

In the rear there's a redesigned Monoshock with remote reservoir and aluminum swing arm. The Monoshock is lighter than last year's, yet it has greater oil capacity and more travel. In front, there's more travel for the leading-axle forks. And the chrome-moly frame is the same rigid single-down-tube design found on our YZ's.

AND RUN AMUCK.

Where the go-for-broke YZ features end, the IT175's enduro innovations take over. Like a



Easy-access tool kit.

The tail light is integrated into the fender this year.

The new-design fuel tank is tapered in the rear for more comfortable riding. And it has a 60-mile range under competitive conditions.

The new FIM enduro side covers have big, easy-to-read number plates.

The new Monoshock with remote reservoir and aluminum swing arm is the most efficient system yet devised to keep the rear wheel on the ground. Spring preload, rebound dampening and nitrogen pressure can be adjusted in infinite combinations to suit different riders or different terrain.

New rear mud guard protects the chain and works-type cylinder fins from mud.

New tire design with variable-pitch knobbys for better traction.

new mud guard to prevent mud build-up on the chain and cylinder fins. Rubber guards to protect the hand levers from mud. And a rear brake lever above the folding foot pegs, so it won't be pushed up by obstacles.

Our new rear wheel quick-change mechanism

is so efficient and strong we were able to make the triangulated swing arm out of aluminum—another Yamaha first. And changing the big, new dust-eating air filter is virtually a one-handed job.

To see all our new tricks for 1980, visit your Yamaha dealer. And see how we turned YZ yellow into IT blue so you can win enduro gold.

YAMAHA

When you know how they're built.

New, integrated headlight and number plate. New, compact speedometer and odometer, re-settable in tenths.

The new, YZ-type fenders eliminate mud build-up.

The YZ-type two-stroke engine with reed-valve Torque Induction cranks out tremendous power. New Power-jet carburetion means instant throttle response. And the efficient CDI system is tuned to provide usable torque and mid-range power for hill climbing and slogging through water or mud.

The fully adjustable air/spring leading-axle front forks with quick-release wheel have even more travel this year.

The six-speed transmission has all the quick-shift features of the YZ gearboxes, but it offers a wider band and more-low end power.

Smaller wheels for less weight. With rim-saver tires to protect the rim from dents.

AFTER WE REFINED THIS MOTORCYCLE, WE REFINED THE REFINEMENTS.

While other motorcycle manufacturers have been busy imitating our Specials, we've been busy too.

Improving them.

And nothing demonstrates those improvements quite as dramatically as our 1980 XS Eleven Special. A shining example of Yamaha's exclusive "designed in" approach to the way a motorcycle looks. And feels. And performs.

While our competitors are content to take an existing frame, slap on a teardrop tank, stepped seat, pullback handlebars and call it better, we call it an imitation at best.

Our idea of improving the XS Eleven Special was to dedicate two years to altering its frame geometry. Then developing a unique mounting system to integrate seat with frame while reducing the seat height by a whole inch. Designing and re-designing its cast alloy grab rail to become an integral part of the bike's tail configuration. Including a twin bulb taillight to go with it.

We've added dual trailing-caliper, slotted disc brakes in front, with a single, fade-resistant slotted disc in the rear. And a full, angled-back instrumentation panel.

What we couldn't improve, we've left well enough alone: our legendary 1101cc, four-cylinder engine. Still the biggest, most powerful four-stroke we make. With four, constant-velocity Mikuni carburetors, TCI, and our exclusive vacuum advance system.

Plus a fully-enclosed, direct-coupling shaft drive and short-throw, constant-mesh, five-speed transmission.

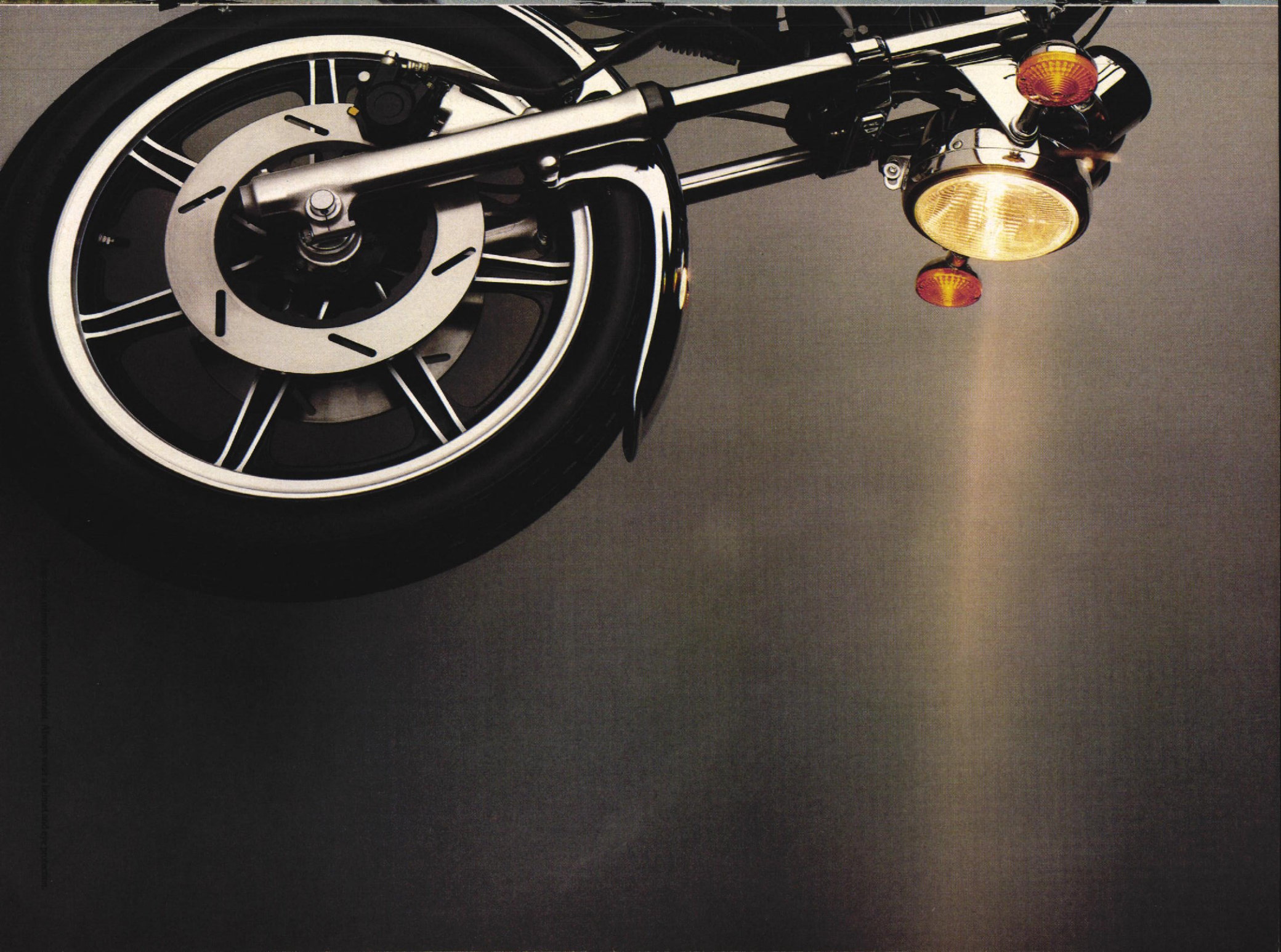
The result: a motorcycle that feels as good as it looks. And looks as good as it performs.

A motorcycle worthy of being called a Special.

And a Yamaha.

YAMAHA

When you know how they're built.



1980 World Competition Calendar

1980 125cc, 250cc, 500cc National Motocross Series

March 23	Sacramento, CA	125/250
March 30	Saddleback, CA	125/250
April 13	Houston, TX	125/250
May 18	Southwick, MA	125/250
May 25	Mount Morris, PA	250/500
June 1	Buchanan, MI	250/500
June 8	Atlanta, GA	250/500
June 15	Lakewood, CO	250/500
June 29	Sears Point, CA	125/500
July 6	Washougal, WA	125/500
Aug. 24	Binghamton, NY	125/500
Aug. 31	St. Petersburg, FL	125/500

Reliability Trials (ISDT Qualifiers)

March 22-23	Tellioco, TN
April 12-13	Maplesville, AL
April 19-20	Tulsa, OK
April 26-27	Cal City, CA
May 10-11	Rose City, MI
May 24-26	McMinnville, OR
May 31-June 1	Bellingham, WA

SCORE Off-Road Races

February 8-10	Parker 400
March 21-23	Mexicali 250
June 6-8	Baja International
August 21-24	ORWC, Riverside
November 4-7	Baja 1000 km

AMA Supercross Series 250cc

February 9-10	Seattle, WA	250
February 17	Oakland, CA	250
March 1	Atlanta, GA	250
March 8	Daytona Beach, FL	250
March 14-15	Houston, TX	250
April 26-27	Pontiac, MI	250
May 3-4	New Orleans, LA	250
May 10	Kansas City, KS	250
July 12-13	Los Angeles, CA	250
August 9-10	Philadelphia, PA	250
November 15	Anaheim, CA	250

1980 AMA Winston Pro National Series

Feb. 8 (Fri)	Houston, TX	TT	Night
Feb. 9 (Sat)	Houston, TX	Shorttrack	Night
Mar. 9 (Sun)	Daytona Beach, FL	Roadrace	Day
April 12 (Sat)	Sacramento, CA	Mile	Night
May 4 (Sun)	San Jose, CA	Mile	Day
May 10 (Sat)	Gardena, CA	Half-Mile	Night
May 17 (Sat)	Topeka, KS	Half-Mile	Night
May 31 (Sat)	Louisville, KY	Half-Mile	Night
June 1 (Sun)	Elkhart Lake, WI	Roadrace	Day
June 7 (Sat)	Harrington, DE	Half-Mile	Night
June 15 (Sun)	Loudon, NH	Roadrace	Day
June 20 (Fri)	Hinsdale, IL	TT	Night
June 22 (Sun)	Columbus, OH	Half-Mile	Day
June 29 (Sun)	Road Atlanta, GA	Roadrace	Day
July 6 (Sun)	Brooklyn, MI	Roadrace	Pending
July 12 (Sat)	Castle Rock, WA	TT	Night
July 13 (Sun)	Sears Point, CA	Roadrace	Day
July 19 (Sat)	Gardena, CA	TT	Night
July 27 (Sun)	DuQuoin, IL	Mile	Day
Aug. 1 (Fri)	Hinsdale, IL	Shorttrack	Night
Aug. 3 (Sun)	Peoria, IL	TT	Day
Aug. 3 (Sun)	Laguna Seca, CA	Roadrace	Day
Aug. 16 (Sat)	Cedar Rapids, IA	Half-Mile	Day
Aug. 17 (Sun)	Pocono, PA	Roadrace	Day
Aug. 23-24 (Sat)	Indianapolis, IN	Mile	Night
Aug. 31 (Sun)	Pittsburgh, PA	Half-Mile	Day
Sept. 7 (Sun)	Syracuse, NY	Mile	Day
Sept. 14 (Sun)	To Be Announced	Half-Mile	Day
Sept. 21 (Sun)	San Jose, CA	Mile	Day
Sept. 28 (Sun)	Riverside, CA	Roadrace	Pending
Oct. 5 (Sun)	Gardena, CA	Half-Mile	Day

Grand Prix Road Races

March 23	San Carlos, Venezuela	125/250/350/500
April 27	Salzburg, Austria	125/350/500/sidecar
May 11	Misano, Italy	50/125/250/350/500
May 18	Jarama, Spain	50/125/250/500
May 25	Paul Ricard, France	125/250/350/500/sidecar
June 15	Rijeka, Yugoslavia	50/125/250/sidecar
June 28	Assen, Holland	All classes
July 6	Spa, Belgium	50/125/250/500/sidecar
July 27	Imatra, Finland	125/250/500/sidecar
August 3	Karlskoga, Sweden	125/250/500/sidecar
August 10	Silverstone, England	125/250/350/500/sidecar
August 17	Brno, Czechoslovakia	125/250/350/sidecar
August 24	Nurburgring, W. Germany	All classes

NMRA Drag Races

March 14-15	Gainesville, FL
April 12-13	Gainesville, FL
April 25-27	Baton Rouge, LA
May 24-25	Epping, NH
June 14-15	Cincinnati, OH
July 4-5	Indianapolis, IN
August 9-10	Fremont, CA
Aug. 27-Sept. 1	Indianapolis, IN
October 4-5	Atco, NJ
October 18-19	Ontario, CA

National Enduro Schedule

Eastern Region		
March 2	Georgia Crackers Decatur, GA	100-mile
March 16	Northern Virginia Trailriders Alexandria, VA	100-mile
August 24	Grey Log Riders MC Tittfield, MS	100-mile
August 31	Columbia Enduro Riders Assoc Columbia, SC	100-mile
October 12	Enduro Riders Assoc Columbus, OH	150-mile
Central Region		
June 15	Range Riders MC Grand Rapids, MI	100-mile
August 17	Lansing MC Club Lansing, MI	200-mile
October 5	Indiana-Illinois-Kentucky Enduro Riders Evensville, IN	100-mile
October 19	Forest City Riders Rockford, IL	100-mile
November 9	Tulsa Enduro Riders Assoc Tulsa, OK	100-mile
Western Region		
February 24	Chaparrals MC Placentia, CA	150-mile
May 18	Lobos Incorporated Oregon City, OR	100-mile

125cc Grand Prix Motocross

March 30	Holland
April 13	Austria
April 20	Belgium
April 27	France
May 18	Yugoslavia
June 7-8	West Germany
June 15	Italy
June 22	Czechoslovakia
July 6	Finland
July 27	USA
August 3	Canada
August 17	Spain

250cc Grand Prix Motocross

April 13	Spain
May 11	Czechoslovakia
May 18	West Germany
June 1	Belgium
June 8	Poland
June 15	USSR
June 22	Britain
June 28-29	France
July 13	Holland
July 20	USA
August 17	Finland
August 24	Sweden

500cc Grand Prix Motocross

April 13	Switzerland
April 20	Austria
May 4	France
May 11	Sweden
May 18	Finland
June 8	Italy
June 15	Holland
June 22	USA
June 29	Canada
July 20	West Germany
August 3	Belgium
August 10	Luxembourg

Trans-USA Motocross Series

September 23	Lexington, OH
September 28	Buchanan, MI
October 5	New Berlin, NY
October 12	Braselton, GA
October 19	Sonoma, CA

World Championship Observed Trials

February 9	Ireland
February 16	Great Britain
February 24	Belgium
March 9	Spain
May 18	Austria
June 1	France
June 22	Switzerland
June 29	West Germany
July 13	Italy
August 24	Finland
August 31	Sweden

Miscellaneous International Events

Isle of Man May 31-June 6	Isle of Man
Motocross Des Nations September 14	England
Trophee Des Nations September 7	Italy
World Speedway Championships September 5	Sweden
International Six-Days Trial September 22-27	France
Superbikers October 26	USA

Coup d' Endurance (Endurance Racing)

May 15	Holland
June 14-15	West Germany
June 22	Austria
July 6	Spain
July 27	Japan
August 16-17	Belgium
September 7	Italy
September 14	France
September 27-28	Britain

MOTOR CYCLIST
Magazine

THEY SING IN THE
AND HOWL IN THE D

Six days a week, you've got a nice, quiet, street-legal motorcycle. You take it darn near everywhere.

And then it's Sunday.

You're out for a cruise on a winding country road. Just humming along. Then you come around a turn and you see it. A motorcycle park. With at least a dozen dirt bikes and acres and acres of trails. Everybody's attacking them full-on with their hot little two-stroke machines.

And there you sit. With your boots, your gloves, your goggles and your helmet on. So in you go. And after just a couple of minutes to get loose, you're having a ball. Up on the pegs. Screaming through the rough stuff. On the gas. Maybe even passing a dirt guy or two. And giving him a shot of your horn and turn signals just to rub it in.

Sound like some kind of complete fantasy? Well, not if you're on a Honda XL. Because Honda doesn't build a dual-purpose bike by throwing two half-purpose bikes together. Instead, Honda designs a machine that's all business in the dirt. And then makes it nice and easy for the street.

Take a look at the XL185S.

XL500S XL250S XL185S

ALWAYS WEAR A HELMET AND EYE PROTECTION.

XL185S designed for operator use only. Specifications subject to change without notice. © 1980 American Honda Motor Co., Inc.
For a free brochure, see your Honda dealer. Or write: American Honda Motor Co., Inc. Dept. 45, Box 50, Gardena, California 90247.

CITY.
IRT.

That four-stroke engine gives you the kind of powerband most two-stroke guys would give their sprocket teeth for.

Then check out the XL250S and XL500S. A pair of powerhouse, four-stroke, four-valve singles, complete with Pentroof™ combustion chambers and vibration-reducing counterbalancers. The XL250S pulls so hard you just might think it's a 400. And the XL500S? It's the most powerful dual-purpose machine in the world. Period.

All three are light enough to be 100% serious in the rough stuff. And each one gives you the kind of suspension that used to come only on radical motocross machines—lay-down, inverted, gas-charged rear shocks. Long-travel, leading axle front forks. And Honda's exclusive smooth on the street, grabby in the dirt dual-purpose tires.

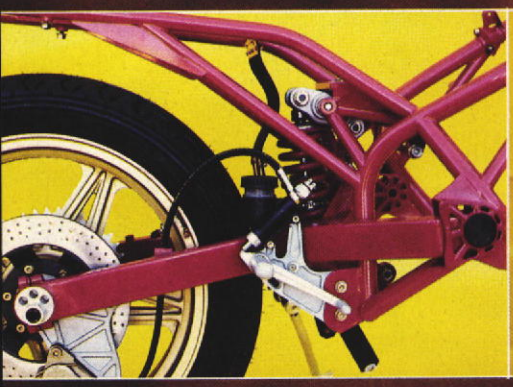
There's more; lots more. Completely street-legal lighting. A long, plush seat with plenty of passenger room on the two larger bikes. A USDA-approved spark arrestor.

The speedometer even comes with an enduro-style tripmeter. Because once you get one of these bright red machines off the road, we think you'll have the competition singing another tune.

Yours.

HONDA

FOLLOW THE LEADER.



bimota

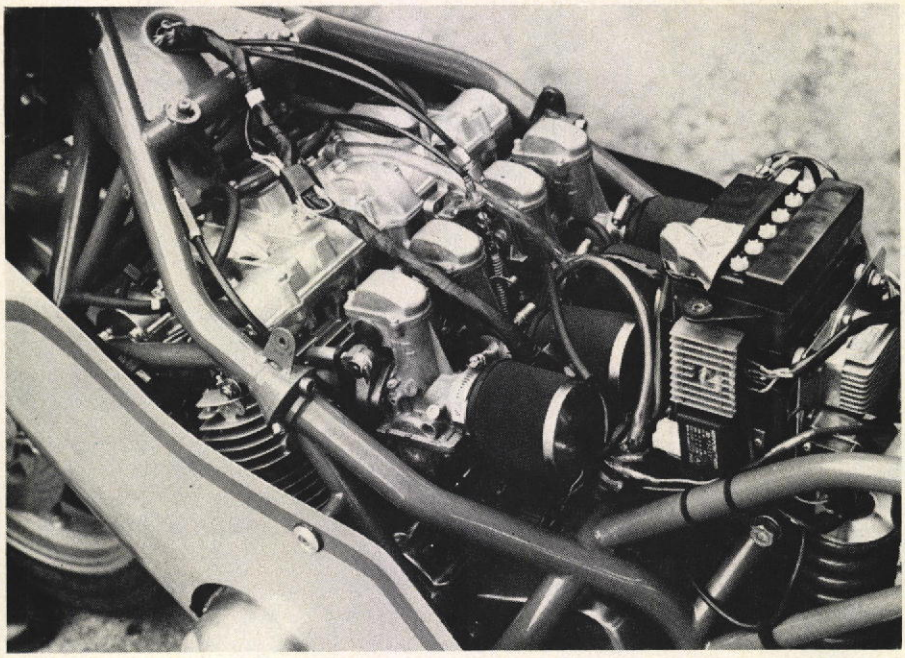
bimota SUZUKI 1000 SB3

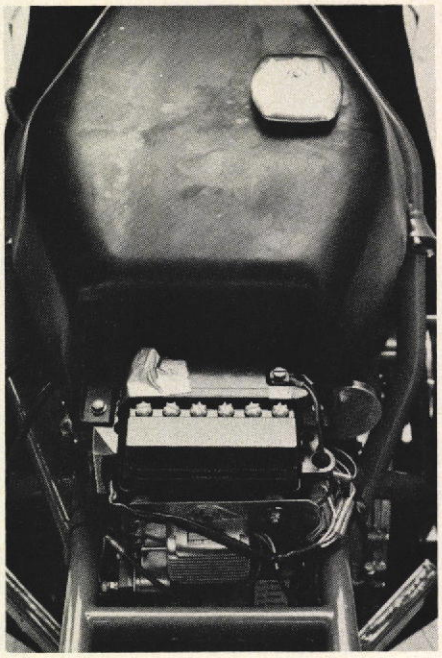
To back-road corner-carvers the name Bimota is well known. The King of Cafe Racers is spoken of in hushed tones as if it were some form of diety. Hundreds lust after this, the most radical and expensive of street machines. Surprisingly, only a tiny handful of the adoring masses have ever actually seen a Bimota Suzuki in the flesh. A glimpse of a photo or a small knowledge of the parts that make a Bimota SB3 seem to be enough to put most mere mortals under the bike's spell.

And it's no wonder. No motorcycle we know of blends such nice parts with such attention to detail. Bimota, an Italian firm, builds the entire rolling chassis, and you supply and install a Suzuki GS1000 engine, carbs and electrics. The result is the closest thing to a street-legal roadracer in existence. That is, if you have a rather large stack of money. Since there is no one currently distributing Bimotas in the United States, getting an exact price is next to impossible, but it's safe to say that the SB3 rolling chassis would set you back $7000, and maybe more. And of course you must also buy a GS1000 engine to power it. No one ever said owning a modern legend would be cheap.

Being long-time Bimota fanatics, we were really pumped at the prospect of getting our first three-dimensional look at the SB3. The bike had to stay in its crate for photo purposes for a while after we received it, but we wasted no time shoe-horning between the tangle of boards and rope to get an early sample of the riding position. After we grew weary of making engine noises and nearly tipped over the crate with mock cornering gymnastics, we took a close look at what the Italian engineers had wrought.

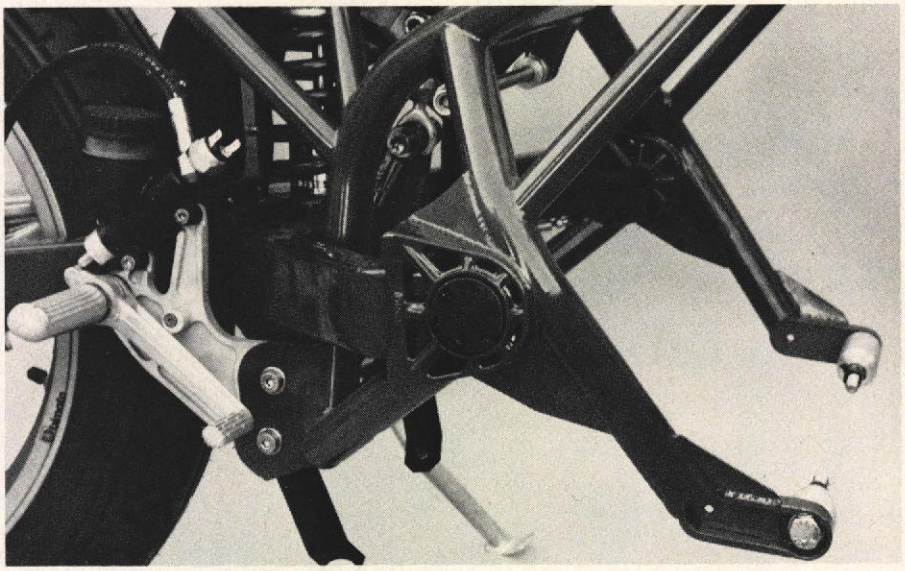
The brilliant red frame is the heart of the bike's trickery. The chrome-moly tubing encases the Suzuki powerplant around the outside instead of cradling it underneath. The fit is so close that for engine installa-





There is very little spare space on the SB3 (top). The conical joints that connect the two halves of the frame are visible on either side of the four standard Suzuki carburetors.

Bimota supplies the gas tank (right) which nestles between the battery and heavily triangulated steering head.



A network of tubing (bottom) holds the two swingarm pivots outboard of the engine cases. Both the countershaft sprocket and swingarm pivot are on the same axis.

tion and removal, the frame splits into two halves. Two precision conical joints join the halves on either side above the engine, which acts as a structural member. The SB3 chassis appears to be tremendously strong since heavily stressed areas are well triangulated. The finish of the frame is first-rate too.

The chassis incorporates several things normally reserved for exotic hand-built racers. First, there's the single shock rear suspension. At first glance the Bimota's set-up looks like Kawasaki's Uni-Trak dirt-bike suspension, but really it's significantly different. The shock mounts to the swingarm at its lower end and to a frame-mounted aluminum bell-crank at its upper end. A connecting link mounts to the front end of the bell-crank and extends downward to attach to the swingarm in front of the shock. If it sounds complicated, that's because it is. The object of all this monkey-motion is pretty simple, though. This system (like Kawasaki's) provides a rising rate, so the further the suspension compresses, the greater the shock's leverage advantage becomes. This means that the rear suspension gets stiffer the farther it compresses. Bimota wasn't content to rely solely on geometry to provide the progressive action they wanted, so they fit the shock with a progressive spring too. The gas shock also has adjustable spring preload and adjustable rebound damping. To change the preload setting, the shock must be removed, but the damping adjuster at the unit's upper end can be turned with the shock still in place.

This unique single-shock system controls an even more uncommon swingarm. Instead of pivoting just behind the engine, the SB3's arm straddles the engine cases and pivots on the countershaft's axis. Four sturdy frame tubes converge on each side to provide a rigid mounting point for the arm outboard of the engine cases. It pivots on tapered Timken roller bearings. With the concentric swingarm pivot and countershaft sprocket, drive chain tension remains constant during rear suspension movement. The chain can be run with a minimum of slack to cut down on wear and drive-train lash.

Up front, the SB3 doesn't display quite so many innovations. A conventional Marzocchi telescopic fork slides into Bimota's own aluminum triple clamps. The steering axis is extremely steep—somewhere around 23 degrees—but the triple clamps are bored at an angle to hold the fork tubes at a more conventional angle. Eccentrics in the steering head let you set the steering axis at either of two angles. Bimota-made adjustable clip-on bars clamp to the fork tubes above the upper triple clamp and come with a Brembo master-cylinder in place. You must supply the clutch lever and switch assemblies.

The chassis is such a thing of beauty that it's almost a shame to shroud it in fiberglass. The bike has a full roadrace-type fairing, but with lights and turn signals incorporated into the design. The stock Suzuki headlight and instruments bolt directly to the mounts inside, while Bimota's own turn signals blend smoothly

PHOTOGRAPHY: ART FRIEDMAN, PAT BROLLIER

into glasswork that looks suspiciously like the down-force spoilers on Suzuki RG500 roadracers. The fairing's aerodynamically clean closed bottom comes within one-half inch of the ground when the bike's suspension is fully compressed. A one-piece body functions as both a cover for the small steel fuel tank and as a seat base and tail section. The area under the seat where you would normally expect to find the battery is occupied by the rear shock and its associated linkage, so the stock GS battery is located just in front of the seat, behind the steel tank.

Getting the SB3 out of the crate and onto the road took a long Saturday, with time-outs to marvel at the machine's beauty and argue over who was going to get to ride it first. There were a few hassles. No provision was made for mounting the horns, so we were forced to improvise. The aluminum Bimota shift linkage was reluctant to clear the frame, peg bracket and rider's foot simultaneously, and required some grinding. And the stock GS speedometer drive had to be machined to fit the Bimota/Campagnolo magnesium front wheel despite following the instructions exactly. We clamped Uni foam air filters onto the stock Suzuki carburetors and slipped the reasonably quiet Bimota four-into-one exhaust system in place. To compensate for the Suzuki's now lean carburetion brought on by reduced intake and exhaust restriction, the carbs were re-jetted. The stock No. 56 main jets were swapped for much larger No. 120s and the needles were raised all the way.

This was the bike's finest hour. It was complete—ready to ride. And so far, it had lived up to its reputation. We gazed at its curvaceous silver fiberglass and squinted as the low afternoon sun highlighted the gold painted magnesium wheels. One staffer proclaimed the SB3 the most appealing mechanical device he had ever encountered. Others agreed.

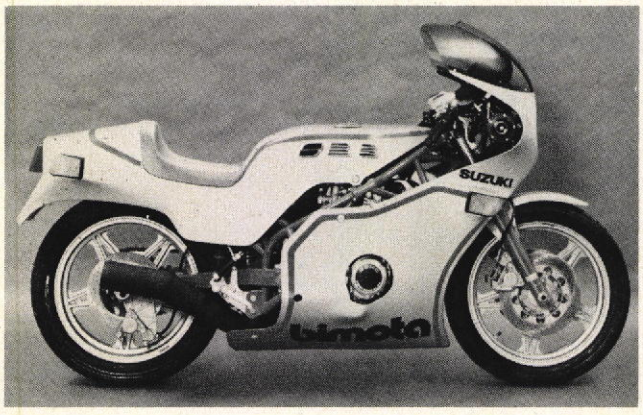
Then we rode it and the appeal began to fade. Only a little at first, but the SB3 had definitely started its slow roll off the pedestal and into the Real World.

The riding position is straight off of a roadracer, only it's more uncomfortable since the extra-long reach to the bars puts most of your body weight on your arms. The seat contributes more discomfort by forcing your hindquarters to conform to it instead of the other way around. Of course the whole point of a bike like the Bimota is to create the ultimate street-going roadracer. We like that idea just fine, but we don't believe that you need to be uncomfortable.

Once resigned to the torturous seating position, we aimed the SB3 at the nearest twisty road. On the way we found that the bike is significantly faster than a stock '79 GS1000—partly due to the less restrictive pipe and air filters, and also due to the Bimota's lighter weight. All that magnesium, chrome-moly and aluminum pay off with a 79-pound weight reduction compared to a stock GS1000E. At 483 pounds wet, the SB3 has far less weight to accelerate. The bike's smaller gas tank accounts for 10 pounds of its advantage. Even with its stock engine and slightly taller-than-stock gearing, it out-accelerated a 1980 Honda CBX. The Bimota would probably run in the mid-elevens at the dragstrip.

The city streets and freeways leading to our favorite curvery revealed the bike's second major shortcoming. The suspension at each end is *much* too stiff. The Marzocchi front fork has a corner on the stiction market and refuses to respond to any but the biggest bumps. Seams and lips in the pavement come through the narrow clip-ons full force. The fork strokes only four inches, but it feels more like two. Believe it or not, the front end is downright plush compared to the rear suspension. No one on our staff has ridden anything short of a hardtail that was as harsh as the SB3. The shock's spring tension and preload seem about right, but the damping is so excruciatingly stiff that each bump, seam and twig is transmitted to the rider's spine in complete detail. It's fairly common to have the Bimota bounce your feet right off the footpegs when you're unlucky enough to run over a rough section of pavement. And the seat ensures that it's more than just your feet that get rattled around. Perhaps the SB3 is Italy's latest answer to planned parenthood.

After a thorough bludgeoning aboard the bike, we figured that we'd just back down on the shock's adjustable damping to smooth the ride out. We checked and it was already on the softest setting. We looked at each other in utter disbelief. Just for



Suggested retail price ..... N.A.

ENGINE

Type ..... Suzuki four-stroke DOHC four
Displacement 997.4cc
Bore x stroke ..... 70 x 64.8mm
Compression 9.2:1
Carburetion ..... 4, 28mm Mikuni slide-needle
Ignition ..... Battery, dual points
Lubrication ..... Wet sump

DRIVETRAIN

Primary transmission ..... Spur gear, 1.775:1
Clutch ..... 15 plates, wet
Final drive ¾ x ⅜ (No. 630) Tsubaki HSL chain, 15/39

CHASSIS

Fork ..... 38mm Marzocchi, 4.0 in. travel
Shocks ..... Single shock, 5.6 in. wheel travel
Front tire ..... 3.50V18 Michelin M45
Rear tire ..... 130/80V18 Michelin M48
Rake/trail ..... 23°/3.5 in. (85mm)
Wheelbase ..... 55.0 in. (1397mm)
Seat height ..... 29.3 in. (743mm)
Ground clearance ..... 4.5 in. (114mm)
Fuel capacity ..... 3.9 gal. (14.7 liters)
Wet weight ..... 483 lbs. (219kg)
Colors ..... Silver-and-red only

PERFORMANCE

RPM at 60 mph in top gear 3482
Speed in gears at (redline) ..... (8500) 1st 56.25 mph; 2nd 79.00 mph; 3rd 101.98 mph; 4th 124.40 mph; 5th 146.40 mph

fun, we clicked the damping up all the way, but a push-on-the-seat test showed the damping resistance to be about double what it had been. None of us had the courage or desire to ride the bike in that condition, so we set the damping back to full soft and learned to stand up at the first sign of bumpy ground. We theorized (and hoped) that the rigid suspension was intended to make the bike a better handler in the corners. We knew better, but we weren't ready just yet to admit that the Ultimate Cafe Racer might be seriously flawed.

Its appearance definitely isn't. Nothing we've ridden gets more long stares than the SB3—from civilians and police alike. As far as most police are concerned, the Bimota Suzuki is rolling probable cause. They figure that if you aren't breaking the law right now, you either just finished or are in the process of planning your next transgression. They're probably right, too.

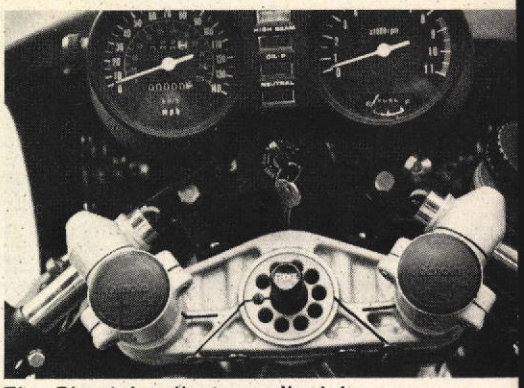
Save your big sins for the curvy roads where the SB3 is at its best. The steering is light, nimble and almost completely neutral. Whatever you might like to try, the Bimota is willing to go along. So if the turn tightens up a bit more than you expected, just flick the bars and pitch it over farther. You can lean it over as far as your faith in the Michelin tires will permit and nothing drags. The Bimota feels solid. It responds instantly to your inputs without the mushy, sluggish feel of normal street bikes. Of course it isn't really a street bike—its roots are in racing.

Since its engine is mounted one inch higher than a GS1000's, the Bimota has a fairly high center of gravity. The only time this is noticeable is when braking while leaned over. In these situations the bike has a pronounced tendency to try to straighten up. This can be easily counteracted by dialing in a bit more lean with the handlebars.

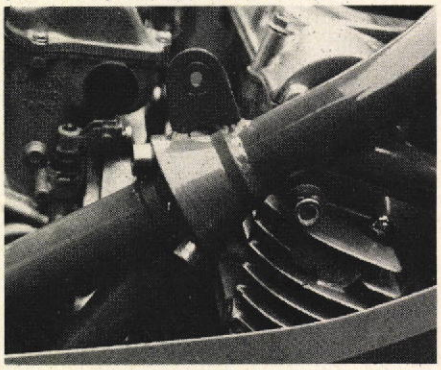
Unfortunately, you can't do much to counteract the SB3's behavior on bumps. No matter how wonderful a bike's geometry is, its handling will suffer if the wheels are constantly being bounced off the ground. In fast bumpy bends the Bimota gets squiggly when its wheels fail to follow the bumps. The chassis is too sturdy to let the bike wobble, but the overall effect is the same—it frightens you enough to make you slow down.

Slowing down is not what one buys the King of Cafe Racers for. If Bimota had their suspension figured out a little better, you wouldn't have to. Only the suspension keeps it from living up to its reputation—maybe even surpassing it. There's one consolation. Anyone who has enough money to afford the Bimota SB3 in the first place probably has enough green laying around to get the suspension working perfectly. When he does, he'll have a bike that works as good as it looks. And that's *great.* M

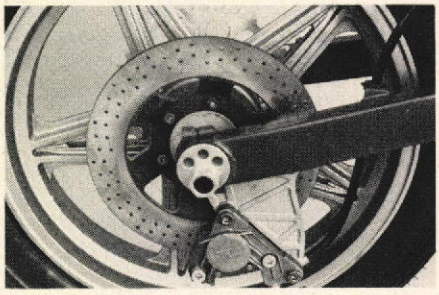
Just at press time we discovered that there is a distributor handling *some* Bimota products and accessories in the United States. For further information contact: Moto Sport, Inc., 24 S. Orange Ave., South Orange, NJ 07079. (201) 761-7601.



The Bimota's clip-ons adjust to a variety of positions—none of which are particularly comfortable on long rides.



Each of the frame's conical joints is secured with three allen bolts. The fit is super precise and virtually flex-free.



The eccentric chain adjusters are very sturdy, though somewhat awkward to use.

Off The Record

With so many wobbly motorcycles to choose from, it's kind of ironic that Bimota picked on Suzuki to wrap their chassis around. No one was complaining about the way the stock GS1000 (or the old 750, another basis for a Bimota kit) handled. It would have been very difficult to improve on the all-around good manners of the stocker, and Bimota didn't try with their street racer. Looking at it, I expected the SB3 to rattle its fiberglass and to be uncomfortable on anything but a very busy road. But I also expected an improvement in handling. That's the Bimota's great disappointment. Although the frame is probably fantastic, the too-taut suspension never gives it a chance to show its stuff. It's ironic that the suspension is the first thing that a Bimota owner would have to modify.

Any Bimota buyer is presumably a tinkerer anyway, although he may find his urge to tinker frustrated. The bike is so cramped that he may have difficulty finding room for an ignition system black box, much less an oil cooler.

The beauty, the careful detailing and the ease of assembly had me believing that the SB3 was the bike of my dreams. I was ready to buy one without ever riding it. Fortunately, I got a chance to ride it before I drained my bank account. After that, I put my checkbook away until I could find something with a better suspension, say a buckboard.

—Art Friedman

The Bimota really had me going at first. It seemed to possess all of the attributes necessary to make it my favorite street bike of all time. It looked like a full-on roadracer that just happened to be street legal and its reputation promised that it would handle like one too.

As it turned out, there isn't a lot more to the SB3 than looks and reputation. True, it handles fantastically on glass-smooth curvery, but that sort of pavement is in very short supply. Roads that I used to think were smooth feel like paved Supercross tracks when I'm aboard the Bimota. The bike's fork feels like it's filled with axle grease instead of fork oil, and the rear "suspension" couldn't be much harsher even if a strut was bolted in place instead of the shock. The SB3 is a tremendous motorcycle that is rendered almost unacceptable by its suspension problems.

—Jeff Karr

street stroker

Race Track Developed and Performance Proven!

If you are the kind of rider who DEMANDS precise handling under all types of road conditions. . .

If you are the kind of rider who knows what performance street riding really means. . .

Then you need S&W Street Stroker

STREET STROKER shocks provide you with suspension that was developed by S&W for racers like Reg Pridmore and Harry Klinzman. STREET STROKER shocks give you suspension that has freon gas cell bodies and road race valving that is blended with a dual spring design.

And STREET STROKER shocks look good. Available in your choice of chrome ($115.95 a pair) or black ($99.95 a pair) and with either black springs ($34.95 a pair) or chrome springs ($39.95 a pair). To insure a precise fit and the proper spring combination, see your local S&W Suspension Expert, he will have all the facts.

Prices are retail and subject to change without notice

S&W

Engineered Products
2617 W. Woodland Dr.
Anaheim, CA 92801 U.S.A.
(714) 527-1641

1980 NEW MODEL PRICE GUIDE

Nineteen seventy-nine proved to be a record year for motorcycle sales both here and abroad. The outrageous cost of fueling the family car has turned many people to motorcycles as an alternative mode of transportation. This influx, plus the ever-increasing sophistication of established enthusiasts, has expanded the demand for more specialized machines to satisfy many different motorcycle lifestyles. Factories have managed to meet the challenge head on by offering models in standard trim for the budget minded, sport styling for performance riders, specials or pseudo-choppers for Boulevard Knights and shaft-drive options for tourers. Some models are dressed for the highway with full fairings, saddlebags, high-mileage tires and full-console Dolby stereos. Commuter bikes designed with the accent on performance and good looks are now capable of 65 mpg. The industry is expanding to meet the needs of each and every individual.

The following list of motorcycles available here in America has been divided into six groups: **Street/Highway** encompasses road bikes only. **Street/Trail** bikes are dual-purpose machines legally operable on both street and dirt. **Cross-country/Enduro** bikes are off-road playbikes, enduro-bred racers and desert sleds. **Racers** are built solely for competition on closed-course racetracks. This group is comprised mostly of motocrossers but includes some flat trackers and roadracers. **Observed Trials Bikes** are designed for English trials competition, or for just everyday plonking around.

Prices are manufacturer's suggested retail. They may vary from dealer to dealer and change in the face of currency fluctuations, duties, geographical locations and a pack of other uncertainties.

Under 100cc

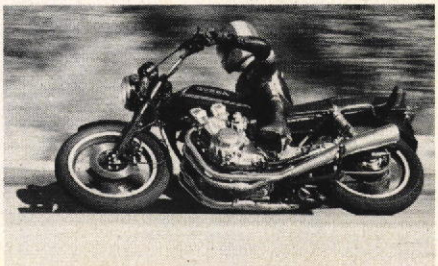
Street/Highway	
Honda C70	$N.A.
Suzuki OR50	$649
Suzuki FA50	$399
Suzuki FS50	$569
Street/Trail	
Honda CT70	$578
Honda XL80S	$678
Kawasaki KV75-A 9	$549
Yamaha GT80G	$598
Cross-Country/Enduro	
Honda Z50R	$478
Honda XR80	$615
Italjet JC5C 50 Scout	$529
Italjet KS50 4-speed	$689
Italjet MM5B 50 Automatic	$419
Italjet M5C 50	$449
Kawasaki KD80-M1	$569
Kawasaki KDX80-A1	$619
Suzuki DS80T	$609
Yamaha MX80G	$568
Racers	
Honda CR80R	$698
Italjet PR50 6-speed MX	$1249
Kawasaki KX80-A2	$729
Suzuki RM50T	$599
Suzuki RM60T	$649
Suzuki RM80T	$699
SWM 50 Mini Cross Automatic	$495
SWM 50 Cross Boy 4-speed	$625
Yamaha YZ80G	$698

100cc/120cc

Street/Trail	
Honda CT110	$775
Honda XL100S	$898
Kawasaki KM100-A6	$749
Kawasaki KE100-A9	$739
Suzuki TS100T	$789
Yamaha DT100G	$779
Cross-Country/Enduro	
Suzuki DS100T	$709
Yamaha MX100G	$699
Racers	
Suzuki RM100T	$1099
Yamaha YZ100G	$1097

125cc

Street/Highway	
Honda CB125S	$928
Moto Morini 125	$1644
Street/Trail	
Honda XL125S	$1028
Kawasaki KE125-A7	$1049
Suzuki TS125T	$969
Yamaha DT125G	$1046
Cross-Country/Enduro	
Suzuki DS125T	$889
SWM 125 GS	$2245
Yamaha IT125G	$1169
Racers	
Can-Am 125 MX-6	$1549
Carabella 125 MX-4	$1100
Carabella 125 Torero Flattrack	$1100
CCM 125 Water-cooled	$3500
Hodaka 125 Motocross	$N.A.
Honda CR125R	$1329
Husqvarna 125CR	$1750



Kawasaki KX125-A6	$1369
KTM 125 MC	$1970
Montesa Cappra 125VF	$2049
Suzuki RM125T	$1329
SWM 125 MC	$2348
Yamaha YZ125G	$1329
Yamaha TZ125G Roadracer	$3500

175cc/200cc

Street/Highway	
Derbi 2002 6V 188	$2395
Honda CM200T Twin Star	$1248
Kawasaki KZ200 D1 LTD	$1249
Street/Trail	
Honda XL185S	$1098
Kawasaki KE175-D2	$1099
Suzuki TS185T	$1099
Yamaha DT175G	$1136
Cross-Country/Enduro	
Can-Am 175 Qualifier	$1599
Honda XR200	$1298
Kawasaki KDX175-A1	$1339
KTM 175 GS	$2085
Suzuki DS185T	$1059
Suzuki PE175T	$1379
Suzuki RS175T	$1199
SWM 175 GS	$2365
SWM 175 Scrambler	$2348
Yamaha MX175G	$999
Yamaha IT175G	$1399
Racers	
KTM 175 MC	$2082

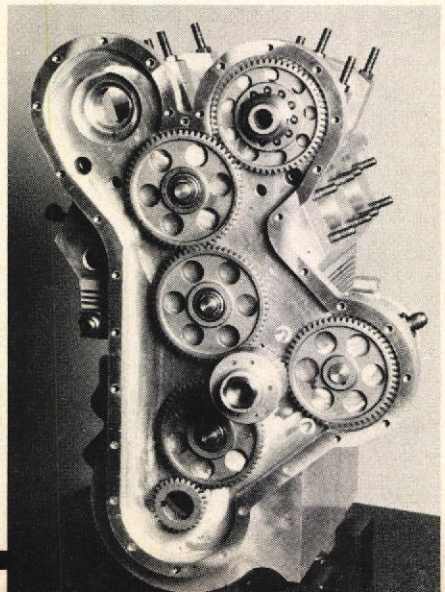
250cc

Street/Highway	
Kawasaki KZ250-D1	$1249
Moto Morini 250 V-twin	$1995
Suzuki GS250	$1349
Yamaha SR250G	$N.A.
Yamaha SR250SG	$N.A.
Street/Trail	
Hodaka 250 Road & Trail	$795
Honda XL250S	$1448
Kawasaki KL250-A3	$1499
Suzuki TS250T	$1449
Yamaha XT250G	$1479
Cross-Country/Enduro	
Ammex 250 Enduro	$1795
Bultaco 250 Frontera	$1751
Can-Am 250 Qualifier	$1999
Honda XR250	$1548
Husqvarna 250 OR	$2225
Husqvarna 250 WR	$2295
Kawasaki KDX250-A1	$1749
Kawasaki KLX250-A2	$1599
Maico 250E	$2164
Montesa 250 H6 Enduro	$1989
Ossa 250 Desert Phantom	$2125
Ossa 250 Super Pioneer	$1995
Suzuki DS250T	$1239
Suzuki PE250T	$1759
Suzuki RS250T	$1499
SWM 250 GS	$2425
SWM 250 Scrambler	$2480
Yamaha IT250G	$1798
Yamaha TT250G	$1459
Racers	
Ammex 250 Motocross	$1695
Ammex 250 Flattracker	$1995
Bultaco Pursang 250	$2289
Can-Am 250 MX-6	$1999
Carabella 250 MX-4 Centauro	$1600
Honda CR250R	$1798
Husqvarna 250 CR	$2225

Kawasaki KX250-A6	$1849
KTM 250 MC	$2354
Maico 250 M1	$2315
Montesa Cappra 250 VF MX	$2399
Suzuki RM250T	$1819
SWM 250 MC	$2448
Yamaha YZ250G	$1898
Yamaha TZ250G Roadracer	$4500

350cc/450cc

Street/Highway	
Honda CM400E	$1498
Honda CM400A	$1898
Honda CM400T	$1748
Honda CB400T Hawk	$1798
Kawasaki KZ440-A1 LTD	$1794
Kawasaki KZ440-B1	$1499
Kawasaki KZ440-D1 Belt Drive	$1829
Moto Morini 350E	$2295
Moto Morini 350E Cafe	$2395
Suzuki GN400	$1499
Suzuki GN400X	$1299
Suzuki GS450ET	$1659
Suzuki GS450LT	$1699
Suzuki GS450ST	$1739
Yamaha XS400G	$1498
Yamaha XS400SG	$1749
Street/Trail	
Suzuki SP400T	$1639
Cross-Country/Enduro	
Bultaco Frontera 370	$1820
Can-Am 350 Qualifier	$2099
Can-Am 400 Qualifier	$2249
Husqvarna 390 OR	$2395
Husqvarna 390 WR	$2465
Husqvarna 390 Automatic	$2395
Kawasaki KDX400-A2	$1899
Maico 400E	$2278
Maico 450E	$2317
Montesa 360 H6 Enduro	$2199
Ossa 350 Desert Phantom	$2195
Suzuki DR400T	$1699
Suzuki PE400T	$1899
SWM 370 GS	$2595
SWM 370 Scrambler	$2580
Yamaha IT425G	$1929
Racers	
Bultaco Pursang 450	$2425
Can-Am 400 MX-6	$2299
Carabella 360 MX-4 Centauro	$1760
Husqvarna 390 CR	$2395
Kawasaki KX420-A1	$1999
KTM 420 MC	$2532
Maico 400 M1	$2387
Maico 440 M1	$2469
Montesa Cappra 414 VF	$2499
Suzuki RM400T	$1999
SWM 370 MC	$2545
Yamaha YZ465G	$1998



500cc/600cc

Street/Highway	
Honda CX500 Deluxe	$2498
Honda CX500 Custom	$2498
Kawasaki KZ550-A1	$2179
Kawasaki KZ550-C1 LTD	$2299
Laverda 500 Zeta	$3249
Moto Morini 500E	$2595
Moto Morini 500E Sport Cafe	$2795
Moto Guzzi V-50T	$3129
Suzuki GS550ET	$2139
Suzuki GS550LT	$2259
Yamaha SR500G	$1898
Street/Trail	
Honda XL500S	$1875
Yamaha XT500G	$1898
Cross-Country/Enduro	
Honda XR500	$1898
Maico 504E	$2600
Yamaha TT500G	$1849
Racers	
CCM 500MX Four-valve	$4250
CCM 580MX Three-speed	$4500
CCM Honda 500	$N.A.
Yamaha TZ500G	$N.A.

650cc/750cc

Street/Highway	
BMW R65	$4230
BMW R80/7	$4985
Honda CB650 Custom	$2498
Honda CB650	$2248
Honda CB750 Custom	$2778
Honda CB750F	$2848
Honda CB750K	$2648
Kawasaki KZ650-E1 LTD	$2749
Kawasaki KZ650-F1 Custom	$2649
Kawasaki KZ750-E1	$2749
Kawasaki KZ750-G1 LTD	$2469
Kawasaki KZ750-H1 LTD	$2849
Suzuki GS750ET	$2799
Suzuki GS750LT	$2899
Triumph 750 Bonneville	$N.A.
Yamaha XS650G	$1998
Yamaha XS650SG	$2399
Yamaha XJ650G	$N.A.
Racers	
Harley-Davidson XR750	$N.A.
Yamaha TZ750F Roadracer	$9500

850cc and Over

Street/Highway	
Benelli 900 Sei	$5500
BMW R100RS	$7025
BMW R100RT	$7195
BMW R100S	$6595
BMW R100TS	$5830
BMW R100T	$5525
Ducati 900 Darmah	$4299
Ducati 900 Darmah SS	$4499
Ducati 900 SS	$4699
Harley-Davidson FLH-80 Electric Glide	$5656
Harley-Davidson FLH Sport 80	$5013
Harley-Davidson FLH-1200	$5093
Harley-Davidson FLH-80 Classic	$6070
Harley-Davidson FLH-80 Classic with Sidecar	$8219
Harley-Davidson FLT-80 Tour Glide	$6013
Harley-Davidson FXS-80 Low Rider	$5426
Harley-Davidson FXB 80 Sturgis	$5687
Harley-Davidson FXE 1200	$4536
Harley-Davidson FXE/F-80 (Spokewheel)	$4888
Harley-Davidson FXE/F-80 (Castwheel)	$5068
Harley-Davidson FXW/G-80	$5527
Harley-Davidson FXW-G-80 Wide Glide	$5683
Harley-Davidson XLH-1000 Sportster (Spokewheel)	$3615
Harley-Davidson XLH-1000 Sportster (Castwheel)	$3715
Harley-Davidson XLS-1000 Roadster (Spokewheel)	$3915
Harley-Davidson XLS-1000 Roadster (Castwheel)	$4015
Honda CB900 Custom	$3300
Honda CBX 1000 Six	$4198
Honda GL1100	$3798
Honda GL1100 Interstate	$4898
Kawasaki KZ1000-A4	$3449
Kawasaki KZ1000-B4 LTD	$3699
Kawasaki KZ1000-D3 Z1R	$3699
Kawasaki KZ1000-E2 Shaft	$3649
Kawasaki KZ1300-A2	$4779
Kawasaki KZ1300-B2 Touring	$5699
Laverda 1200 Jota	$4650
Moto Guzzi 1000SP	$4949
Moto Guzzi 100CX LeMans	$4949
Moto Guzzi 1000 V-1000 I-Convert	$N.A.
Moto Guzzi G5 1000 LAPD	$4369
Suzuki GS850GT	$3099
Suzuki GS850GLT	$3199
Suzuki GS1000ET	$3599
Suzuki GS1000GT	$3699
Suzuki GS1000GLT	$3799
Suzuki GS1000ST	$3869
Suzuki GS1100ET	$3669
Suzuki GS1100LT	$3769
Yamaha XS850G	$2849
Yamaha XS850SG	$2998
Yamaha XS850LG	$3348
Yamaha XS1100G	$3699
Yamaha XS1100SG	$3879
Yamaha XS1100LG	$4249
Observed Trials	
Bultaco 350 Sherpa T	$1785
Montesa Cota 49 (Mini)	$1049
Montesa Cota 247C	$1839
Montesa Cota 349	$2219
Ossa 350 Plonker	$1975
SWM 320 TL	$2395

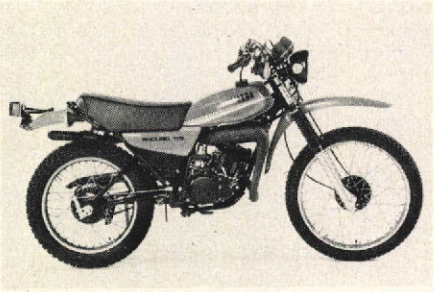
THE 10 BEST BUYS IN MOTORCYCLING

Back in early 1974 when the first list of 10 Best Buys appeared, the winner was Suzuki's stalwart T500 twin, a big bike capable of inter-continental touring and 108 mph. It cost $1045, and was one of only two bikes on the list over $1000. Today, only one of the 10 Best costs *under* $1000, Suzuki's TS125, no inter-continental tourer, but at least priced to bring hope to a kid saving for a bike with paper route money. Though most bike prices today are wallet busters, a careful shopper *can* find bargains. These 10 selections are just that. A bike appears on the list if it is significantly less expensive than others in its class and provides adequate performance, or if it is almost the same price and provides outstanding performance. It may not be cheap, but for what it is, the price is a bargain. No bike was chosen unless the *Motorcyclist* staff felt it was satisfactory by these criteria: availability, performance, serviceability, reliability, parts availability and resale. There are cheaper bikes available in some of the classes on the list, but their shortcomings by these criteria eliminate them. Our selections were made after studying the Price Guide To 1980 Models published elsewhere in this issue. Distributors quoted these prices in late January, so they may have gone up since then. We don't suspect any will go down.

1980's BEST BUY OF THE YEAR

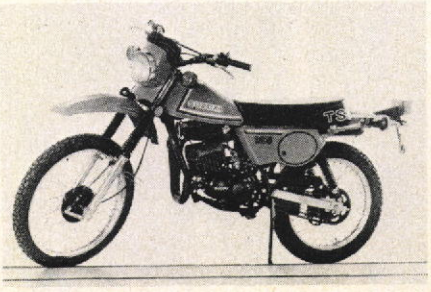
HONDA XL500S $1875

"A dual-purpose bike as The Best Buy of 1980?" you ask. A compromised-to-tears misfit not completely at home in the dirt or on the street? If that's what you're thinking, you obviously haven't ridden an XL500. We have. We took it dirt riding and had every bit as much fun—and rode damn near as hard—as we would on a pure dirt bike costing much more. We certainly could go anywhere on the XL500 that we could on a pure enduro. And we rode it on the street, too. We pushed it hard on windy mountain roads and those trials universal "dirt" tires stuck well enough to let the torquey, lightweight XL use all its ground clearance and slip around many a sporty street bike. The XL500 handles better than most street bikes on a twisting road or in traffic—and it vibrates less than some as well. You *could* think of it as a faster, smoother SR500 for $23 less. Or you *could* call it a discount XR500 which doesn't need a truck to get it to the dirt. But neither of those statements is an accurate description of the XL500. It's actually *both* of those—for less than the price of either one. Getting two bikes for less than the price of one makes the XL500 the best buy of 1980, by far.



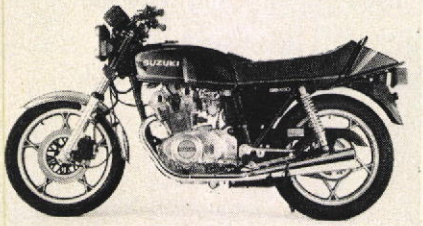
YAMAHA DT175G $1136

All the little 175cc dual-purpose bikes are good buys because they are fast enough for freeway use, economical to run, handy in traffic, fun on winding roads, easy to maintain and inexpensive to purchase. In addition they can be ridden in the dirt—without having to be hauled there. This two-bikes-in-one character makes them better buys than similarly sized street bikes, which are more expensive without the versatility. Although it's $38 more expensive than the other 175cc trail bikes, the Yamaha is significantly better than the others, both on and off the road. It's the best buy of the bunch.



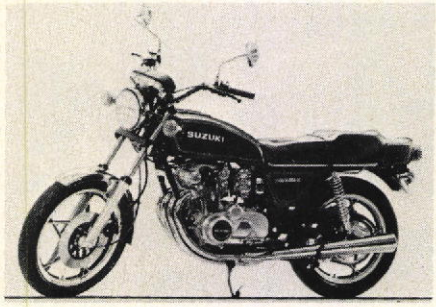
SUZUKI TS125T $969

There's only a couple of really good basic-transportation street bikes available for under $1000. One of them is Honda's CB125S streeter. The other also happens to be a dirt bike, Suzuki's dual-purpose TS125. The TS125's versatility makes it doubly enticing and doubly valuable. You can use it to tote groceries or explore a trail in the woods. Take it to school or take it on camping trips. Excellent fuel economy (50 to 60 mpg) and simple maintenance make it practical as a play-bike or an everyday workhorse—or both.



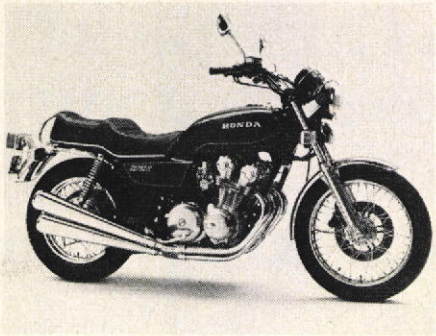
SUZUKI GS450ET $1659

Although it costs as much as $160 more than other street bikes in the 350/450 class, the Suzuki fits in that class only because of its displacement. It performs more like a *good* 550, turning 13.75-second quarter-mile times with terminal speeds of 95 mph. For us it averaged 55 mpg with a high of *65 mpg!* It is smooth, roomy and plush enough to do time as an open-road tourer, yet manageable enough to get beginners through the hassles of commuting. And it's a rocket on a mountain road. With all that going for it, you'll understand why it almost displaced the XL500 as 1980's best buy.



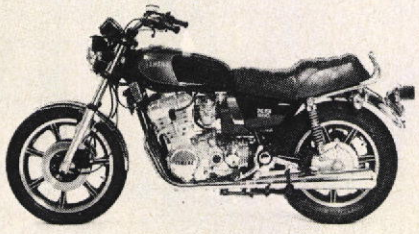
SUZUKI GS550ET $2139

Last year's best buy is back in the top ten this year, but it got knocked out of the No. 1 spot by several factors. One was the excellence, economy and very close performance of its own little brother, the GS450. Its best-buy status was also hurt by Suzuki's decision to drop the wire-wheel econo version and offer only the more expensive mag-wheel model, which now has electronic ignition and constant velocity-carbs. However, those carbs are bigger and have boosted performance by a second at the dragstrip (13.6-second ETs) without damaging mpg (45 to 55). Comfort, proven reliability and its ability to handle long tours make the GS550 versatile—and a bargain.



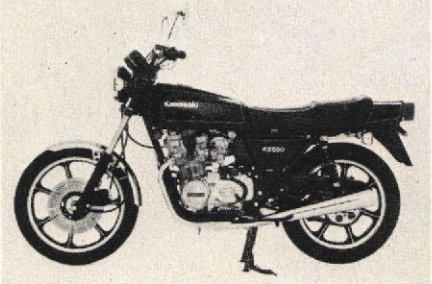
HONDA CB750K $2648

When you glance through the accompanying Price Guide, the Honda CB750K stands out. Here's a four-cylinder fire-breather for $100 to $200 less than the other 750 fours and $200 less than the similar CB750F. This, the four-pipe version of Honda's DOHC four, has virtually all of the power and handling of the F model and most of its features. It only lacks the extra front disc, the adjustable-damping shocks and the ComStar wheels. The K model may even be better than the F for open-road touring. And you can tour a long way at 40 mpg on the $200 you save.



YAMAHA XS850G $2849

You know you're getting a deal when you buy a DOHC 850cc shaft-drive road bike with cast wheels, tubeless tires, dual discs, adjustable-damping shocks, air-assist fork, an oil cooler, self-canceling turn signals and a quartz headlight for $250 less than the competition's 850 shafty. True, the Yamaha triple does vibrate a little more than the Suzuki four, and it doesn't handle quite as sharply. But it's no turkey. It gets 40 mpg while touring briskly, runs a 12.9-second quarter-mile and goes over 200 miles on a tank of fuel. Like we said: You're getting a deal with this one.

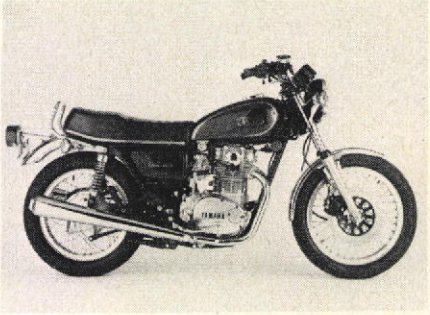


KAWASAKI KZ550 A1 $2179

Since it hasn't actually been released or tested yet, including the new KZ550 four is blind faith on our part. Its specs indicate that it won't perform quite as well as the Suzuki 550, but since it shares the same basic layout and middleweight versatility, it promises the same wide range of willing service. It seems to be big enough to cruise the interstates comfortably, yet small and nimble enough to battle traffic easily and economically. It's $40 more than the Suzuki, but if the KZ is as good and as versatile as we expect and if a Kawasaki dealer is nearer or better, the KZ may be the better buy.

YAMAHA YZ465G $1998

The lone motocrosser on the list qualified easily because it is not only the best performer in the cutthroat big-bore class, but also costs less than any of its 12 competitors. Yamaha really hit the bull's-eye with this one: Its booming 41.92 horsepower is tops in the class; its foot of travel at both ends equals the best; its monoshock is much closer to the mark than previous monos and its rideability on the track is unsurpassed. The bike's one drawback is that it's most certainly for experts only, since any novice will be overwhelmed, and perhaps flipped over backwards, by the 465's awesome power. It's a lot gentler on your wallet.



YAMAHA XS650G $1998

Here's a perennial repeat on the Best Buy list. Yamaha paid for the 650's tooling sometime back in the early Seventies and they've kept the price down ever since to ensure huge volumes of sales worldwide. For an amazing $683 less than the average cost of the 17 other bikes in the 650/750 class, you get a reliable workhorse which runs 14-flat in the quarter-mile and averages 45-50 mpg. Its natural parallel-twin vibration has been minimized over the years by rubber insulation and special motor mounts to an acceptable level, and its torquey powerband has endeared it to thousands of owners. It's not a technological masterpiece, but it gets the job done. There's even a nationwide Yamaha 650 Owner's Club with a monthly newsletter and special parts buying connections. *M*

Why did John Paige pick the new KZ550 with long-stroke front suspension?

John claims when you're a little smaller, you have to be ready to handle anything.

After all, being totally in control of a bike that's as slim and quick as the new KZ550 can make you feel just fine, and if a backpacking beauty stops for some country conversation, maybe it's John's charm or maybe it's the lure of the Kawasaki.

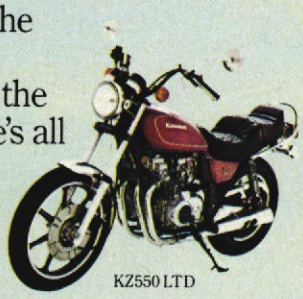
Of course when John bought the all new KZ550, he knew what he was getting into, so to speak. That the narrow configuration of Kawasaki's dependable four-stroke Z engine would give him plenty of clearance for fast cornering. That he'd get big-bike power through all six gears. That the air-adjustable, leading axle front fork and the adjustable

rear suspension would iron out the bumps in the road. He knew that the KZ550 would have an electric starter and an anti-hot wire device.

Once he took the KZ550 out on the road, he revelled in the handling and the performance. 13-second quarter miles really get your heart started.

But there was a surprise. What he didn't expect was the price. That really blew the doors off the competition. A bike that performs this well at this price is hard to beat. All his friends agreed with that. Once they caught up with him.

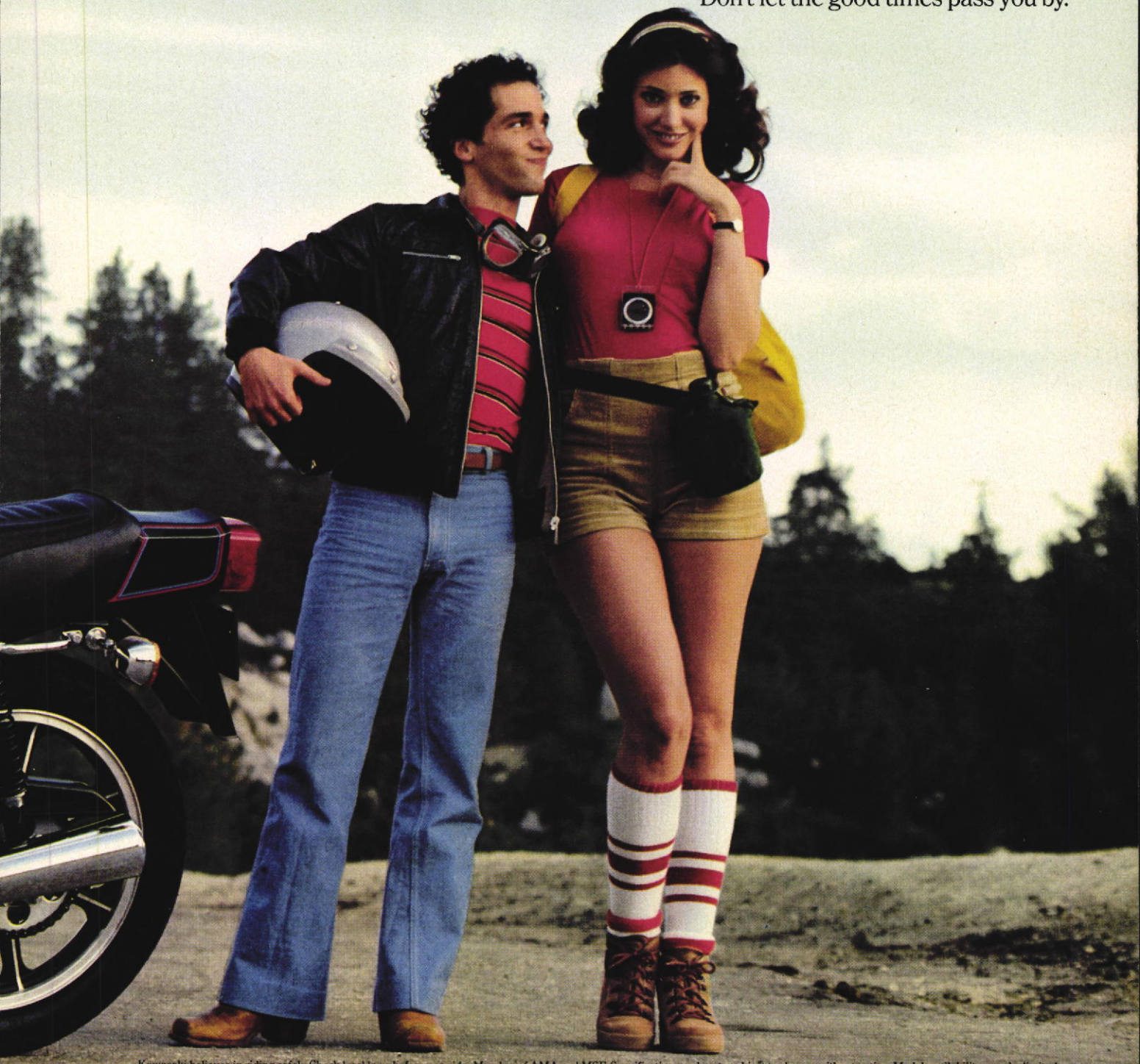
When you check out the KZ550 at your Kawasaki dealer, cast your eye over the stylish KZ550 LTD. There's all the same excitement plus a few trick extras, like transistorized breakerless ignition, a dual-density foam rubber stepped seat and pullback handlebars. Choose—then get out on the road. That's where Kawasaki's new KZ550 belongs.



KZ550 LTD

Kawasaki

Don't let the good times pass you by.

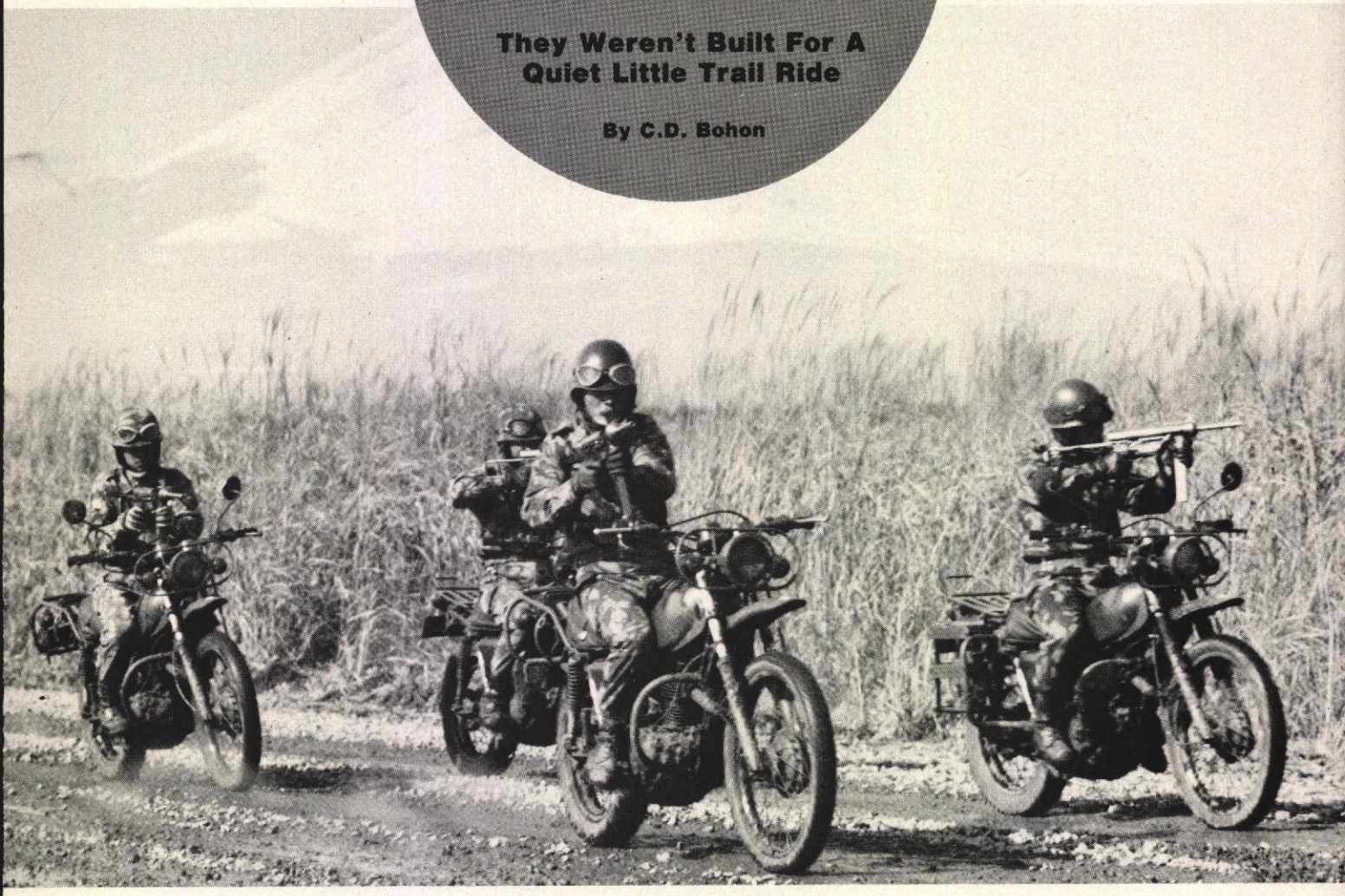


Kawasaki believes in riding safely. Check local laws before you ride. Member of AMA and MSF. Specifications and parts subject to change without notice. Model availability may be limited.

THE WAR BIKES

They Weren't Built For A Quiet Little Trail Ride

By C.D. Bohon



You don't see them at first as you scan the dun hillside, its slope broken by steep-sided ravines and copses of maidenhair trees. Then a flicker of movement catches the corner of your eye and you shift your gaze and raise the binoculars. Yes. There's one. A Honda XL250, olive drab, is picking its way carefully but rapidly down a boulder-strewn gully. There should be another. Where is it? Ah, there. A little higher up the slope. The camouflage fatigues of the riders, the dull paint scheme of the bikes, make them difficult to spot.

At the foot of the ravine a soggy dirt road slogs around the skirt of the hill. Along it toil two 2½-ton trucks filled with troops and, leading them not quite far enough ahead, a quarter-ton truck mounting a heavy machine gun. The men in the point vehicle are alert, scanning the hillside and ditches beside the road for signs of ambush. But they don't spot the bikes. Nor have the motorcycle riders caught sight of the patrol.

The bikes break from the ravine just as the quarter-tonner rounds the elbow of a turn. Surprise is mutual but the bikers react the swifter, just as they've been trained to. The lead rider lays his Honda down in a quick spray of mud, the tires toward the truck, unslinging the automatic rifle from his back as he does so. The following rider rears his bike up on the rear wheel and quickly scans the patrol, noting precious details. As he spins around and full throttles back up the ravine, bounding up the slope like a gazelle, the first rider is already down on one knee behind his bike stitching brief bursts of well-aimed steel-jacketed 7.62mm slugs into the lead truck. From your position you clearly hear the sharp rapping bark of the Howa automatic rifle and the faint snarl of the wide-open Honda already well up the slope and out of danger. You know rider No. 2 has already raised an artillery battery with his helmet mike and within minutes the self-propelled 155s dug in a few miles away in the mountains will make the road a hell of exploding

PHOTOGRAPHY: JAPAN DEFENSE MINISTRY

Left—Recruiters visit local motocross events to enlist skilled riders into the ranks. They practice year 'round in mud, snow and deep sand. Above—Weapon and ammo, radio, fuel, spares and bivouac gear load a bike and rider down as he prepares to disappear into the boonies for several days of practice skulking and spying. Below—Helicopters can put a squad of bikers far behind enemy lines quickly.

shrapnel and white phosphorus. Before that happens rider No. 2 will have flung himself to the ground and opened up covering fire for No. 1 so he can scramble back on his bike and sprint to safety. Later they will make a complete verbal report of the encounter to HQ.

It's an exercise, of course. Practice. The motorcyclists were firing blanks. No artillery rounds will come crashing down onto the road. But performance is carefully noted, scores tallied. The bikers did well. Everyone is satisfied.

The motorcycle troops you just saw in action were a unit of the elite motorcycle scout corps attached to every one of the 13 divisions of Japan's Ground Self-Defense Forces—the eyes and ears of the new Japanese army.

Motorcycles form an integral part of Japan's small but well-equipped and highly trained military forces, not as messenger carriers but as the mounts for armed scouts whose mission it is to search out the enemy and fix his numbers, equipment and position for the main battle forces. It is a vital role which the Japanese feel can best be accomplished by taking advantage of the all-terrain capacity and speed of the motorcycle. Today each of the Japanese army's divisions, including the tough 7th Armored facing the Russians in Hokkaido, depends on its motorcycle scout company for reconnaissance security.

Each company is equipped with 18 motorcycles, Honda SL or XL250s, and six support jeeps armed with heavy machine guns and recoilless rifles. The scout company is divided into three platoons, each with six bikes and two jeeps. A normal patrol consists of two or four motorcycles, depending on the objective. A jeep may accompany the patrol if the bikes will be traveling far enough afield to require refueling or if they're likely to need some fire support. The jeeps also carry spares and an extensive array of tools to handle any breakdown.

The Japanese military began working on developing motorcycle scout forces back in 1963, and, after discarding a number of strategies and motorcycle models, engaged Honda to develop a bike specifically to fit their needs, and arrived at the present mission function, the only weak link in which is the jeeps: the Japanese would like to replace them with American Sheridan light tanks. But the bikes work fine. Honda designed its XL250 to meet the requirements of the Japanese military and only afterwards marketed a civilian version, which was received with a storm of acclaim in America for its many technical innovations, none of which were suspected to be military in origin. According to officers of the Ground Self-Defense Forces, the army decided it needed a quiet,

quick-moving ATV for forward scouting light enough and compact enough to be carried to the front in an Armored Personnel Carrier, or helicoptered behind enemy lines. The motorcycle was the obvious choice. But not just any motorcycle. They wanted a bike that was at home on paved highways, bounding along cross-country at high speed or picking its way through a muddy woods. They also wanted one that was dead reliable, easy to maintain and, above all, quiet.

Honda designed their four-stroke thumper with these needs in mind. The bikes the scouts use differ from civilian models in having a more robust frame, a motor tuned to turn out 22 horsepower, a second muffler aft of the standard silencer, crash bars, folding leg mud guards, large metal tool box, luggage carrier, radio and, of course, olive drab paint. The camouflage paint extends even to the fork tubes and wheel hubs. The engine is black. No part of the bike is left to twinkle a tell-tale flash of light from the sun to enemy field glasses.

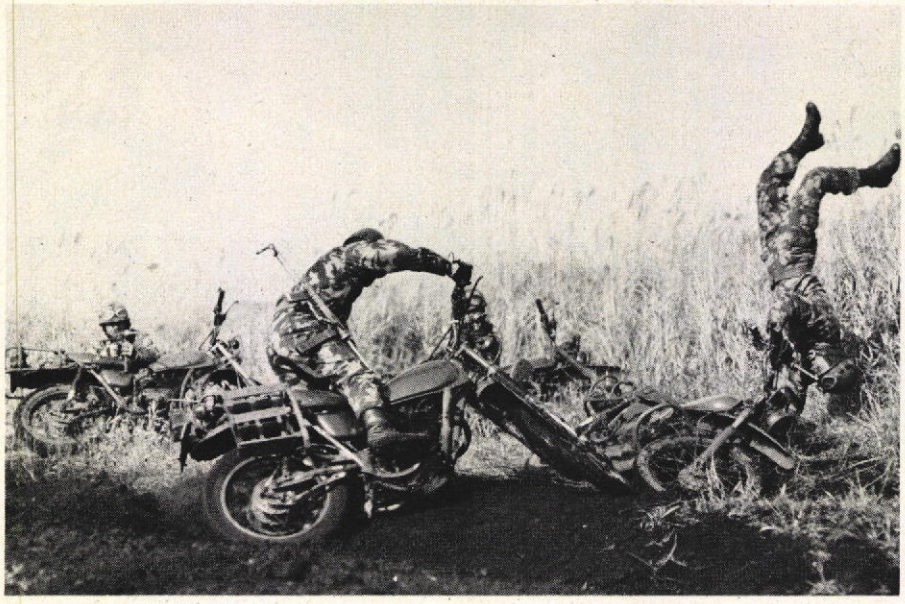
The U.S. Army rather half-heartedly operates a small motorcycle scout team equipped with aging Suzuki TS185s, but the American military has shown little interest in exploiting the special merits of the modern off-road motorcycle. The chief complaint of the American army has been noise, or as the army typically puts it, the "distinctive audio signature" of the motorcycle. The Americans were also unsatisfied, back in the late Sixties when they were examining seriously the possible roles the motorcycle could play on the battlefield, with the machines then available.

THE WAR BIKES

The Japanese military had the same objections, but they had the advantage of a vigorous native motorcycle industry fully capable of developing a motorcycle to fit the needs of the army. America, having relinquished that industrial option, had no contractors with the know-how or facilities to design a motorcycle to suit, so the two-wheeler over here has been brushed aside.

But the Japanese are enthusiastic about the motorcycle's possibilities for swift and accurate reconnaissance of enemy forces, perimeter patrol of division field positions and, in the not-too-distant future, behind the lines harrying enemy columns. With the coming on line soon of light, one-man "fire and forget" anti-tank guided weapons, the motorcycle scouts could become deadly tank killers, striking the enemy where they will and retiring swiftly to the cover of forest and mountain.

In fact, the Japanese Ground Self-Defense Forces' role is very similar to that of the U.S. Seventh Army in Europe: to repel a Russian armored invasion of most definitely friendly territory. With the recent switch in Soviet tactical planning from broad front invasion to highly mobile deep-thrust penetration and encirclement, the need for just the type of stay-behind or infiltrate and observe capacity the motorcycle offers has increased dramatically. Japanese officers speak confidently of their motorcycle teams' ability to operate effectively, undiscovered, for weeks be-



Oops, crash. While this shot may appear to show all the organization and skill of an, ahem, Chinese fire drill, what with Roscoe Bermblaster about to shoot himself in the forehead whilst executing a magnificent endo, and his pal in the background about to rip off a magazine of slugs straight into his comrades, everything is completely under control, according to a Major overseeing this free-for-all. They practice crashes on purpose. He says.

hind enemy lines, taking advantage of their country's rugged landscape and lush vegetation for concealment and nurture.

Motorcycle teams are trained in how to use terrain features for concealment while on patrol or scouting missions. They avoid roads and open spaces to hug hillsides just below the crest, follow stream beds or the many footpaths criss-crossing the mountainous backbone of the country. In the valleys the motorcycle's ability to navigate along the dikes separating rice paddies is a tremendous asset. Conventional wheeled and even tracked reconnaissance vehicles are always slowed and often stopped entirely by the rice paddy combination of dike barrier and swampy muck. Motorcycles scarcely slow down crossing rice paddies, wet or dry.

The army the motorcycle scouts work with has the best equipment Japanese industry can build, and that is pretty good. On the ground it includes the Mitsubishi Type 74 tank, a 38-ton monster armed with a 105mm high-velocity cannon equipped with laser telemetry, trajectory calculator and gyro gun stabilizer system. The beast has a hydraulically variable profile and is capable of sustained rapid, accurate fire while on the move. In the air, if the Honda scouts get in trouble they can call on the Kawasaki-powered F1 all-weather supersonic support fighter, the equivalent of the U.S. Marine Corps' A7, except it goes twice as fast.

The motorcycle troops themselves are armed with either the 9mm Shin Chuo Kogyo submachine gun, or more commonly, the Howa Type 64 gas operated selective fire automatic rifle, which handles a 30-shot magazine of standard NATO cartridges. The bike-soldiers are trained to operate their motorcycles hands off and fire their weapon with both hands. As a result there's no wild spraying of lead over three counties and it's actually worth the trouble to freight the rifle along: the troops hit what they shoot at even while bounding along at 30 mph.

But the scouts consider their most important weapon their Nikon binoculars. After all, they are scouts, and locating and reporting the enemy is their chief goal. Their training is concentrated on finding the enemy undetected. The classrooms at the Fuji training grounds are filled with military reconnaissance homilies: One step up is better than 100 down; Accuracy, speed, completeness; Invisible scouts return the best information; Scouts defeat the enemy not by fighting him, but by finding him; Report what you see quickly, but make sure what you see is correct; Risk your life to get your report to headquarters, but don't throw it away trying to get news—a dead scout passes on no information.

Stealth, caution, silence, are the by-words of Japan's two-wheeled spy-glass and notepad men. In a typical 100-kilometer patrol loop, as much as one-third or more of the ground covered may have been traversed with the engine shut off, the machine coasting. A great deal more ground will have been covered at low revs, with only now and again a judi-

continued on page 105

QUICK LOOK: 1980 SUZUKI TS250T

Suzuki Puts The Dual Back In Dual-Purpose

Last year Suzuki's TS250N performed admirably on the pavement: smooth, quiet, fairly comfortable and powerful enough to blend easily with commuter traffic. But it lacked the very essence of its appointed existence: the ability to perform equally well in the dirt. In sum it seemed more a warmed over stew of outdated pieces than a *truly* dual-purpose bike.

Perhaps in an effort to boost lagging sales in the D-P market, Suzuki improved performance dramatically for 1980 by incorporating some subtle, but significant changes.

At a glance you can see some of the changes that bring the TS up to today's standards. The aluminum colored box-section swingarm is the first thing to catch your eye. A narrow tank and seat, racy-looking side panels and newly designed plastic fenders contribute to the TS's dirt-bred appearance. Square plastic-cased speedo and tach units replace last year's steel instruments, and rubber-mounted turn indicators replace the bendable steel mounters.

When we tested the TS in a two-stroke dual-purpose face-off last October, it came out on top in street performance. It had a clear horsepower advantage at high revs, yet maintained adequate midrange and low-end torque. This year Suzuki opted to sacrifice some of that high-revving power in favor of even more grunt. They raised the compression ratio from 5.7 to 5.9 by lowering the exhaust port 2mm from the top. They then opened up the intake tract and fitted a single-cable Mikuni carb in place of last year's 28mm push-pull arrangement, reducing weight and unnecessary complication. The result is a more manageable powerband with an ample supply of torque. They've even managed to make the 246cc motor more fuel-efficient in the process. Our TS averaged 47.5 mpg,

Suggested retail price.....$1449

ENGINE

Type.....Two-stroke piston-port/case reed
Displacement.....246cc
Bore x stroke.....70 x 64mm
Compression.....5.9:1
Carburetion.....1, 29mm Mikuni slide needle
Ignition.....Suzuki PEI, electronic

DRIVETRAIN

Clutch.....12 plates, wet
Final drive.....5/8 x 5/16 (No. 525) D.I.D. chain 40/15

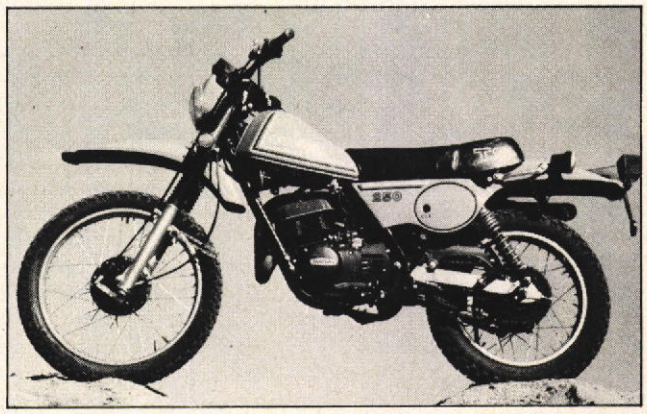
CHASSIS

Fork.....35mm, Showa, 7.6 in. travel
Shocks.....Showa gas/oil, 5.2 in. wheel travel
Front tire.....3.00-21 IRC Trials GP-1
Rear tire.....4.60-18 IRC Trials GP-1
Rake/trail.....29°/4.88 in. (124mm)
Wheelbase.....55.38 in. (1406mm)
Seat height.....33.75 in. (857mm)
Ground clearance.....11.25 in. (285mm)
Fuel capacity.....2.6 gal. (9.8 liters)
Wet weight.....288 lbs. (130kg)

Colors.....Blue
Instruments.....Speedo, tach, resettable tripmeter

PERFORMANCE

Mileage & approx. range.....47.5 mpg average, 123 miles
RPM at 60 mph in top gear.....5568
Speed in gears at (redline).....(7000) 1st 22.84 mph; 2nd 34.60 mph; 3rd 48.78 mph; 4th 62.29 mph; 5th 75.42 mph



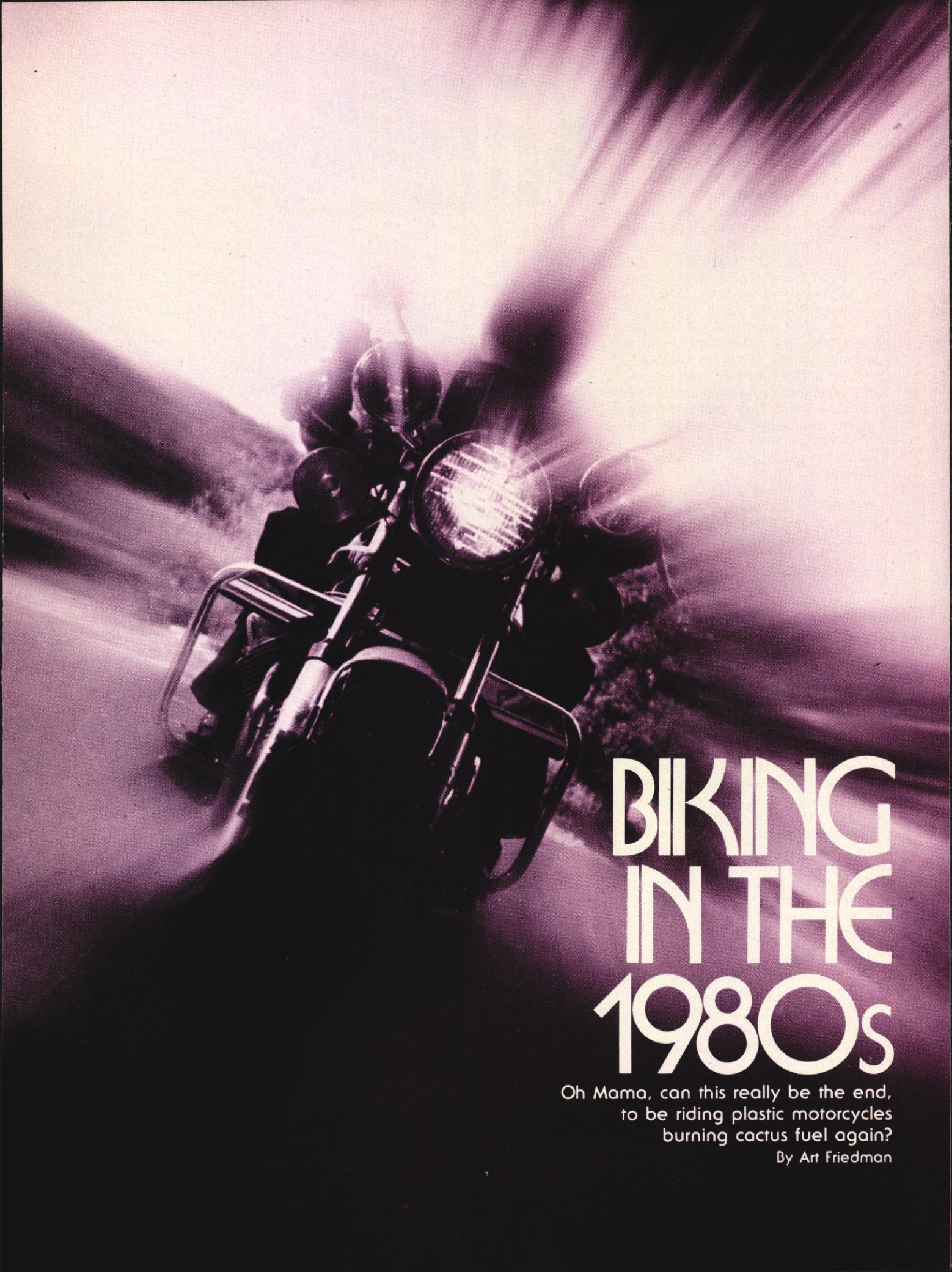
PHOTOGRAPHY: KEN VREEKE

8.35 mpg over the previous model. Unfortunately Suzuki didn't see fit to increase the TS's fuel capacity when they restyled the tank. It's still crippled by a meager 2.6-gallon capacity and 115-mile range.

Suzuki ensured the extra midrange found its way to the ground by equipping the TS with longer Showa gas-charged shocks and mounting them to the mild-steel box-section swingarm. They also raised the section of frame supporting the fender and seat to accommodate the added .60-inch of wheel travel. Seat height has been raised a full inch, providing a more comfortable riding position in the dirt. The addition of longer shocks has also altered the frame's geometry slightly. Steering head angle is now half-a-degree steeper, effectively dropping the trail from 5.12 to 4.88 inches. This corrected the greatest annoyance suffered by last year's TS: an unpredictable, often painful, reluctance to turn without washing out.

Of course much of this problem rested in the standard Universal Trials tires of yesteryear. But influenced by the success of Honda's Bridgestone Claw patterned tires on the XLs, Suzuki fitted the TS with similar tires from IRC. Although they are harder in compound than the Bridgestones, the big 4.60-18 rear and 3.00-21 front supply a much greater degree of versatility than the old-school universals. The new skins harbor no rude surprises so characteristic of the universals. Even on the street there is substantial improvement in performance. Visions of full-length scabs dissolve in glimpses of victory as you dart from corner to corner. We took the TS along on a "peg-testing" session in the twisty Southern California canyons with three sporting middleweights, and believe it or not, the TS hung right in there—and in fact exposed its taillight more than once to the unsuspecting streeters. The IRC tires felt a bit skittish when pushed past the sensible limits, but never once came close to spitting us off.

We are enthused by the improvements on the TS. It's likely that Suzuki has boosted performance because they recognize the important role dual-purpose bikes may play in the future of motorcycling and also because they want to inject some excitement into the sinking dual-purpose market. How long the TS and the rest of the two-stroke D-P bikes will last in the face of mounting regulational pressure from the EPA is another question altogether, but for now Suzuki has managed to meet the stiff emission demands head-on without sacrificing performance. M



BIKING IN THE 1980s

Oh Mama, can this really be the end,
to be riding plastic motorcycles
burning cactus fuel again?

By Art Friedman

What will the future bring to motorcycling? Does motorcycling even have a future? It's hard to know, but we believe that motorcycle riding does have a future, and we have some idea of trends which are developing in the sport, the industry and certain agencies which are charged with overseeing various aspects of motorcycle production and use.

Except where we refer to existing hardware, the predictions which follow are nothing more than educated guesses. They don't allow for eventualities like wars, unforeseeable technological breakthroughs, plagues of locusts and other acts of God, or Arabs. Based on what we've seen and heard, our view of the future is fairly rosy. We believe that the motorcycle industry can keep pace with social change and bureaucratic blundering, and we think that motorcycling will continue to be fun and exciting while making a growing contribution to society.

GENERAL TRENDS

COMMUTER BIKES will experience a resurgence as moped buyers look for bigger, freeway-legal modes of two-wheeled transport and as fuel supplies dwindle. Like Yamaha's new 250cc Exciter I and II models, these will be stylish, simple, tame and equipped for practical considerations like toting groceries and battling traffic every day.

"SPECIALS" AND "CUSTOMS" will reach peak popularity as that genre of styling reaches its extreme—possibly already available in 1980 in the form of Yamaha's Midnight Specials and Harley's Wide Glide, which comes about as close as possible to mimicking the I-did-it-with-my-own-hatchet Harley chopper. Like the pseudo-scramblers of the Sixties, the pseudo-choppers will fall from favor as newer styles leave them behind and as their buyers, the majority of whom are not highly committed enthusiasts, lose interest in motorcycling. We will also see this breed of styling modified as serious buyers demand considerations like improved range and comfort.

THE HORSEPOWER RACE among street bikes has peaked with the Honda CBX and Suzuki GS1100 (which we expect to be followed by a GS1200 shaft-drive tourer). Whether or not power outputs actually decline depends on buyer reaction and the policies of the California Air Resources Board, which has extremely strict standards—about five times stiffer than present EPA regs—in the works for 1982. The standards may be aborted or stopped (or at least delayed) in the courts. However, if put into effect, they will mean slower, heavier motorcycles on California streets (and possibly throughout the nation if the motorcycle companies can't build bikes for just one state). If the CARB's ridiculous standards are quashed, there are no proposed EPA standards at present to damage motorcycle performance before late Eighties.

DIRT RIDING will decline as the cost of fuel needed to *get to* riding areas increases. This will also cause a drop in business at motorcycle parks, forcing some of them to close. However, the fuel-expense problem may prompt a resurgence in the popularity of dual-purpose bikes, which will get you to riding areas cheaply. That in turn would cause manufacturers to pour more effort into dual-purpose bike development. Another ray of hope may be seen in the fuel-efficient mini-vans due in 1982 and 1983. The present trend in land-closure will probably continue at about the same rate, while wholesale ignoring of these laws by dirt riders will increase.

MOTORCYCLE RACING will survive the decade but experience a decline in popularity as it becomes more expensive to do and to watch. If certain forms of racing, like good ole American flat track, are to remain viable, sanctioning bodies will have to work harder to insure close inter-brand contests.

MOTOCROSS faces a major stumbling block in the form of the sky-rocketing costs and rapid obsolescence of entry-level 80cc and 125cc machines. Would-be beginners are increasingly unable to start racing, and riders who are already racing can't afford to keep up with the constantly improving technology. Result: Fewer riders are starting, more riders are being forced to quit. Add the increasing expense of just getting to the races and you have a spiral which, if left unchecked, spells an accelerating decline for motocross. Eventually, smart promoters who rely on amateur motocrossers to pay their bills will institute special classes for riders on older machines or handicaps for riders on new bikes.

MOTORCYCLE PRICES will continue to climb, making things especially tough for companies from countries whose currency goes up in value against the dollar. The value of the yen could also breathe new competiveness into the prices of Harley-Davidsons and Can-Ams—if the yen climbs against the dollar.

MORE MARQUES WILL DISAPPEAR or quit trying in America when faced with tightening EPA noise, emission and certification standards, and absurd CARB regulations. We listed 34 makes which didn't survive the 1970s in the American market *(Motorcyclist,* December 1979) and we foresee more. Which ones? Well, BMW and Maico may be the only European motorcycles you'll be able to buy in 1985. As we go to press, Benelli is having trouble certifying their 1980 machines. The Spanish brands are facing huge pricing problems now that Spain has joined the Common Market and their peseta is tied to the German mark, which makes Ossas, Montesas and Bultacos suddenly more expensive in dollars. Italy's wild inflation and lack of strong U.S. marketing weakens the survival chances for Ducati, Laverda, SWM, Benelli, Moto Morini and Moto Guzzi. Husqvarna's corporate owner, giant Electrolux, allegedly has the Swedish dirt-bike maker up for sale. Triumph, the venerable survivor, is at the mercy of a trade union, which isn't exactly The Catbird Seat for any industrial enterprise.

TECHNICAL TRENDS

PLASTICS will find much greater use in motorcycles of the 1980s. The first plastic engine covers are already here and we've grown used to plastic fenders, body panels, fuel tanks (on dirt bikes), control levers, air boxes and dozens of other little items. That's only the beginning. We expect that many of the following plastic and carbon-fiber components will be commonplace by 1990:

—PLASTIC SPROCKETS are already available as accessories and will eventually become standard fare on bikes with chains. They are quieter (which will help meet noise limits) and lighter and have some self-lubricating and shock-absorbing qualities. However, they may be more expensive than metal.

—PLASTIC WHEELS are in the works for automobiles. On bikes they would reduce unsprung weight, could be designed to absorb some road shock, require no maintenance, seal well with tubeless tires and would come in colors. They might also allow dirt bikes to use tubeless tires.

—PLASTIC FRAMES are not a new idea. Monocoque fiberglass designs were suggested in the 1960s and have been toyed with (at least on the designing board) ever since. Lightness, simplicity (components like the fuel cell could be built right in) and new styling would go with chassis made from new-generation plastic combined with carbon fiber. They also wouldn't rust. Eventually, street bikes will be designed with plastic shrouds around the engine to contain mechanical noise, and these could be part of the frame.

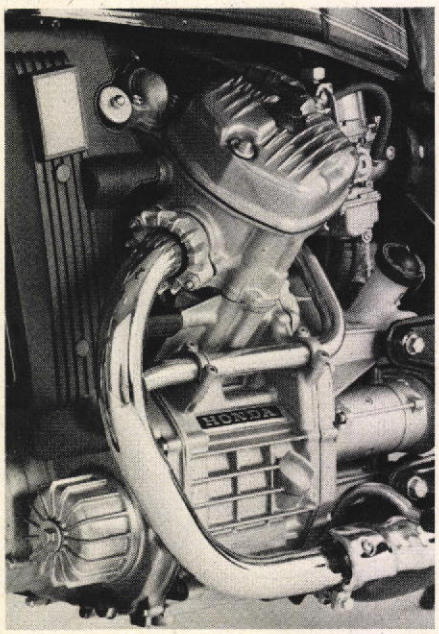
—PLASTIC ENGINES probably sound like a pipe dream. After all, could plastics work when subjected to the heat and stress going into a connecting rod or piston? Could they function reliably as engine cases without leaking or fracturing? Is there any way a plastic cylinder and head could stand up to combustion pressure? It seems impossible, except that racing car engines with all the aforementioned plastic and carbon-fiber components are already for sale. Plastic engines would mean tremendous weight reductions and lower noise levels as well.

—PLASTIC STREET RIDING BOOTS could have vents for hot days, would be warmer on cold days, might have built-in electric foot warmers, could be color-matched to your bike or riding gear and, of course, would help prevent fractures of the foot and lower leg. With plastic ski and motocross boots already the norm, plastic road-riding boots can't be far off.

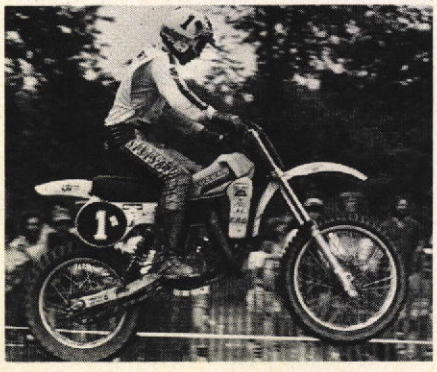
ENGINES will continue to develop and will

keep pace with power-robbing emissions regulations. Buyers' wishes, like performance and rideability, will continue to be an essential consideration.

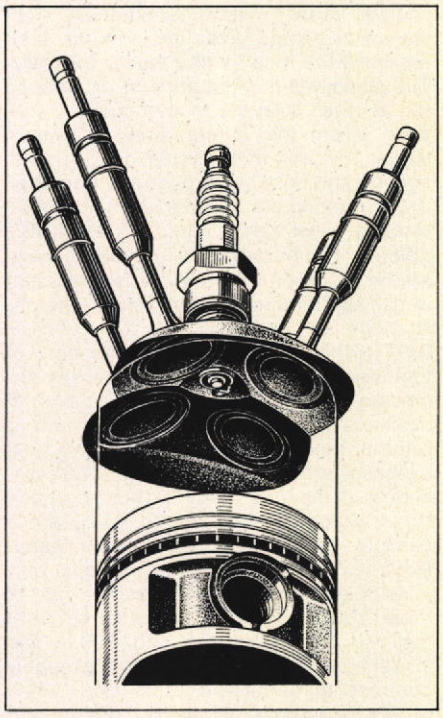
—NEW CONFIGURATIONS and cylinder arrangements are likely. Ducati-type 90-degree V-twins and V-4s seem inevitable to us, especially if combined with short strokes for short cylinder blocks. Our bets for the first to spit them out include Can-Am and Suzuki. V-designs set in other manners and opposed-cylinder designs (perhaps front-to-rear) will also arrive, perhaps from Harley.



—WATER-COOLING will allow tighter tolerances to help meet smog decrees and will help reduce noise. It will also reduce oil consumption and extend the distance between servicings. The first water-cooled production motocrosser, a 125cc Derbi, is already here, and there are sure to be more, such as Honda's RC250, if the motocross technology race continues.



—CVCC-type cylinderheads are just one possible innovation in combustion chamber design in response to lowered legal levels of NOX. Combustion chamber design is certain to undergo some major changes. Fuel injection will change things drastically.



—HYDRAULIC VALVE LIFTERS, already found on Harleys, could reduce valve train maintenance and noise, but they'll also reduce performance.

—TURBOCHARGING is becoming popular on cars but poses some rideability and powerband problems on bikes. Don't expect large amounts of boost or any production turbos before the late 1980s.

—TWO-STROKES may yet stage a revival if the EPA or the CARB shifts their desmogging emphasis from hydrocarbons to oxides of nitrogen. It may be easier to cut hydrocarbons in two-strokes (which produce relatively little NOX) than to reduce NOX in four-strokes (which are lower in the hydrocarbons which have been the primary concern of EPA regs thus far). Two-stroke racers have a bright future, especially in light of Honda's lackluster debut of the NR500 four-stroke.

FUEL AND IGNITION SYSTEMS will see all sorts of changes. More precise, sophisticated systems will be needed to cope with tightening emissions standards, anti-tampering regulations and emissions-control-systems reliability requirements. Rapidly advancing microprocessor technology will supply some of the hardware.

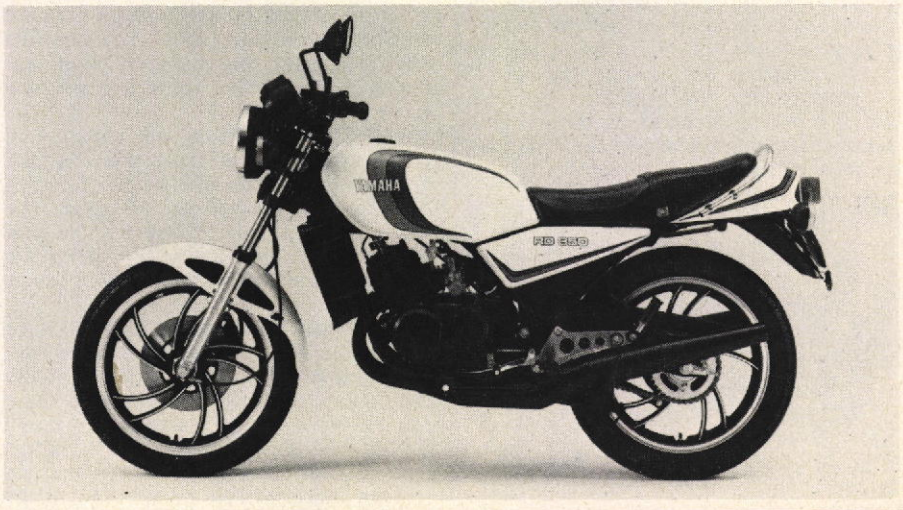
—BETTER IGNITION systems are inevitable to supply hotter, more consistent ignition to increasingly reluctant-to-burn fuel mixtures. Hotter sparks are one answer through the use of CDI systems and better coils. Another answer is dual spark plugs. We already have no-fuss electronic triggering for consistent spark timing. The engines of the late Eighties may not all use spark plugs. For example, A.K. Oppenheim at the University of California at Berkeley is working on a plasma-jet ignition. This ignites the mixture by injecting ionized gases (plasma) into the combustion chamber instead of making a spark.

—NEW CARBURETION designs are sure to appear everywhere as it becomes more difficult to maintain rideability and power with increasingly lean fuel mixtures.

—FUEL INJECTION, though more expensive than carbs, is more exact and consistent. True fuel injection, which injects gasoline right into the combustion chamber at the *end* of the intake cycle, will change the look of motorcycle engines slightly. We will see it from Kawasaki as early as the middle of this year on the KZ1000 LTD.

—ENGINE MANAGEMENT PACKAGES are on-board computerized systems which monitor the temperature of the exhaust gases and adjust the fuel metering and ignition timing instantly. The engine gets just the right amount of fuel, just the right spark timing, no matter if you change the throttle setting, load, or ride up a 7000-foot mountain or into a rainstorm in the desert. The idea originated on race cars, but rumor has Honda working on an engine management package for its roadracers. Its ultimate use will be to keep the EPA at bay without a major reduction in power. Of course, you may be stranded (with a big parts bill awaiting you at your dealer) if one of those little microprocessors signs off a long way from the nearest dealer. Fuel mileage should be great.

NEW MATERIALS will lead to all sorts of interesting technology. We sort of scoffed at the idea of ceramic pistons rumored to be used in Honda's NR500 racer until a



local tuner told us of a ceramic coating which can be applied to piston crowns, combustion chambers, exhaust ports and even valves to insulate and confine combustion heat to the combustion chamber and therefore prolong the life of rings, etc. It would also reduce carbon build up. The same process could be used elsewhere, like exhaust systems.

NEW FUELS will be along by the end of the decade. Alcohol and gasohol are alternatives already in use, such as in Yamaha's "Alcool" 125. Fortunately, motorcycles won't have to resort to diesel or nuclear energy for power.

—"SYNTHETIC GASOLINE" made from steamed coal (to add hydrogen) may appear in the 1980s. It can be refined like gasoline, but it smells awful when burned. Sweeter synthetics can be extracted from oil shale, natural gas and the vast Canadian tar sands.

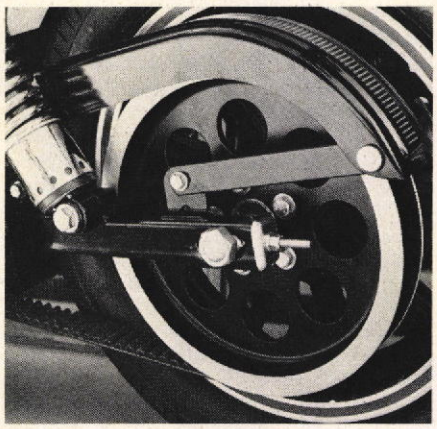
—FUEL FROM PLANTS may be the answer if you can believe a Nobel Prize winner from the University of California at Berkeley. Melvin Calvin's work with a desert bush called *Euphorbia lathyris* shows the plant could produce up to 20 barrels of "oil" per acre. The plant produces a hydrocarbon-type latex and grows on land too arid for most other crops. The southwestern deserts could produce enough of the plant to handle a portion of our oil needs. Instead of gas or petrol, you'll fill 'er up with "U4B," and Iranians will have to go back to rugs as their major export. There's also a tree in Brazil which produces a sap that can easily be refined into a gasoline-like fuel.

—ELECTRIC MOTORCYCLES will probably plug into the commuter market during the decade. A persistent rumor has Yamaha working on a solar-powered motorcycle, probably a battery-powered bike which plugs into a solar generator for recharging. This should silence the EPA's complaints about motorcycle noise, although there will undoubtedly be concern about emissions from batteries.

DRIVETRAINS will undergo many changes to make them quieter, lighter and more efficient—to save fuel and transmit more power back to where it counts.

—ENCLOSED CHAINS are finally returning and Harley-D is leading the way with their Tour Glide. Although they may be motivated by the EPA's noise level requirements, fully enclosed chains are cleaner, fling no grease, last longer and require less maintenance than uncovered chains. Our mail says that people want them, too.

—BELT FINAL DRIVES will be debuted on Harley's new "Sturgis" and Kawasaki's soon-to-be-released 440 streeter. Kawasaki's "PolyChain" has a polyurethane elastomer body with Kevlar cords and nylon tooth facing. In many ways toothed drive belts are better than either chains or shafts. They are lighter than either, require less maintenance than a chain, need no lubrication, have tensile strengths of 8000 pounds or more, can accommodate minor changes in sprocket size (to permit drive ratio changes), are clean, absorb some shocks (thereby smoothing shifting and eliminating the weight and complexity of some or all of the current drive-line shock absorbers) and they are quiet. We'd guess lives of 20,000 miles—with only two adjustments. Since they are light and clean, carrying a spare would be no hassle. Drawbacks? Well, they don't have the mechanical look of chains and since they must be endless (i.e., no master link), replacement will require removal of rear wheel *and* swingarm. They will also be slightly wider (¾ inch to 1½ inch wide) than current roller chains.

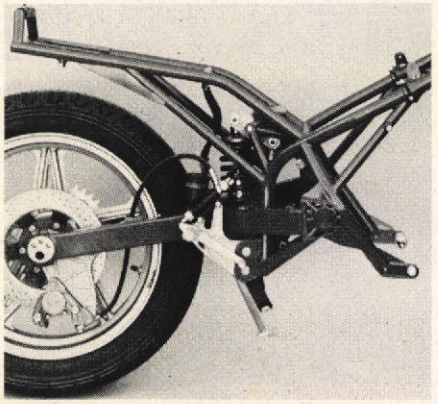


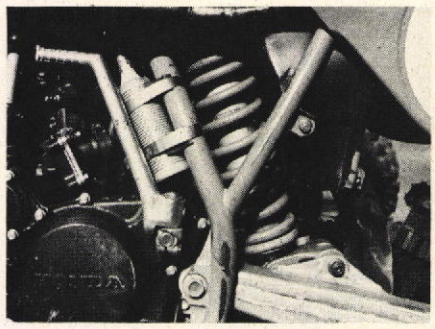
—HYDRAULIC DRIVE was displayed at Honda a few years ago in the employee idea show. We're told that it's not likely to go into production, although the idea might eventually be turned to because it's quiet. We're not sure about the efficiency of this drive, which pumps hydraulic fluid through hoses to the rear wheel and turns the wheel by forcing the fluid through vanes in the hub.

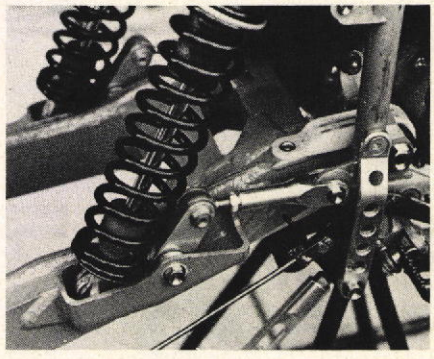
—GEARLESS DRIVE may be here by 1990. Using Monsanto's new miracle fluid, which turns to a solid under pressure (like when it's forced between this system's rollers), these drives could drastically reduce the friction and noise which plague toothed gear sets. The "fluid" lubricates parts, yet won't let them slip. It could add up to 20 percent in fuel economy—and increase the amount of power that reaches the rear wheel.

DIFFERENT BASIC LAYOUTS and new suspension systems may be the results of the search for better handling, lower seat height or new selling features.

—REAR SUSPENSION configurations are already the subject of much experimentation on motocrossers, where Yamaha led the way with the Monoshock, followed by Kawasaki's Uni-Trak and now a hint of interest by Honda with two new systems appearing on works bikes at the end of 1979. More of these will reach production motocrossers in the 1980s as the struggle for better suspension runs afoul of unreachable seat heights. Roadracers have also done a lot of fiddling with rear suspension designs and the first street-going production form of these again came from Yamaha in the form of the 1980 RD250 and RD350. Unfortunately, this trick-nology went to Europe. America got more Specials. At least we got the new monoshock XT250 dual-purpose bike. Besides improved handling, the likely benefits new suspension configurations will bring to street riders are lower seat heights, better big-bump absorption and increased adjustability for load, road and riding style.



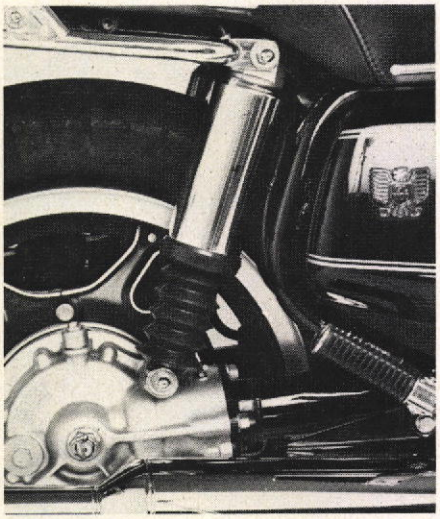




—FRAMES will change to match new suspension configurations and engine layouts. There may also be new types—like monocoque—and new materials such as the carbon-fiber plastics we've previously suggested. We can absolutely guarantee that there will never be bikes with rear-wheel steering. No matter how much taxpayer money the government pours into such an idea, it will never work.

—FRONT SUSPENSIONS will be revised primarily to make them dive less during braking. Suzuki has already introduced an anti-dive front end on their Japanese-market machines, including the GS750, so we may see them on this continent by 1981. Street bikes will get more travel, using leading-axle forks and perhaps some other tricks—but the old telescopic fork will probably survive the decade (at least on street machines) simply because it looks cleaner than any alternative. The styling consideration will probably be more important than a minor handling improvement. Entirely new front suspension systems for motocrossers and other dirt bikes are probably inevitable as long as the market can afford them. Street riders may also find the DOT, *et al*, attempting to ram impact-absorbing front ends down their throats based on some obscure and dubious study. As usual with government "safety" innovations, such a system, because of its weight, would make a slight improvement in after-impact safety but make it harder to avoid the accident in the first place. The insurance companies will promise lowered premiums for bikes with this feature (or other swell new ideas) but never really deliver.

—AIR SUSPENSION will become even more popular because of its vast adjustability and because it can carry a large load while weighing less than a spring. Kayaba is reportedly already making a gas-spring shock for the Kawasaki Uni-Traks because a gas spring will be lighter than the huge steel spring presently used. Some touring bikes will have small on-board compressors so a rider can add air to his forks or shocks with the push of a button while cruising.



BRAKING will continue to get better during the Eighties. Tires will account for some of the improvement as will new types of brakes, perhaps like the conical types used on some roadracers. Rear wheels may be braked at the transmission to reduce unsprung rear wheel weight.

—WATERPROOF DISC BRAKE PADS are forthcoming from Dunlop, and we have arranged for test samples as soon as they are available. Dunlop says the "Dunlopad," a sintered metal puck material, "presents the disc surface with a large number of small but rigid excrescences which effectively penetrate the water film" between the disc and the puck. The Dunlopad reportedly wears and feels like today's standard pucks.

—ANTI-SKID BRAKING systems have been built and tested by Moto Guzzi, at Harley, in England and undoubtedly in Japan. The ones we've seen use an electronic sensor to monitor wheel rotation and ground speed. They release pressure from the brake whenever the wheel speed gets too low for the ground speed. This theoretically makes it impossible for the brake to lock on any surface, no matter how slippery. Of course, such a system would have drawbacks. It wouldn't get you stopped as quickly on a dirt bike in some circumstances and it will be expensive, but the government may require it anyway.

—BRAKING GENERATORS are a long-shot possibility on electric bikes or as a fuel-conservation measure on fossil-fuel burners. They would convert the wheel's energy into electricity to charge the battery when the brakes are applied. They would probably be more trouble than they are worth, though, and they'd almost certainly only work as part of some sort of transmission brake for the rear wheel.

IMPROVED SECURITY DEVICES are only one of the ways that bike manufacturers will attempt to combat rising theft and theft insurance rates. BMW, Honda (on the CBX) and Yamaha (on the Maxim I) already have cable locks as standard equipment on certain models and even Harley-Davidson now has a combined steering/ignition lock on the Tour Glide. Kawasaki's KZ1300 has a second, hidden, ignition key switch. We also expect to see anti-theft measures in the form of serial numbers stamped on more components and in more places on frames. It will then become harder for thieves and their customers to buy new cases and frames, if they must present the old ones. With any luck, these measures will reduce owner's cost by driving down insurance rates.

—LOCKS will become stronger, more sophisticated and more numerous. In not too long we expect to see them appear in places like the centerstand, wheels and brakes. There will be more cable locks built in or sold with new bikes.

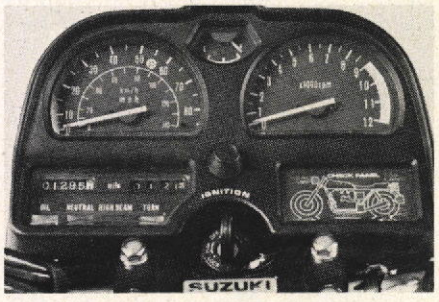
—IGNITION AND FUEL CUT-OUTS are another possible theft deterrent. Moto Morini's 500 already comes with a petcock that turns on when the key is turned on, so hot-wiring isn't enough to permit you to ride it away. Kawasaki has their "secret" switch on the KZ1300. Another approach is the specially coded, removable fuel or ignition system component. Maybe you'll need a key to turn on the gas. You might have to have a key to install your ignition system's quick-detach pocket-size black control box.

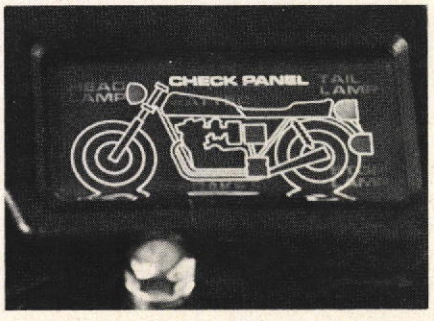
—ALARM SYSTEMS will soon be built into more expensive bikes as standard equipment. We're almost surprised there wasn't one on the GL1100 Interstate.

MINOR COMPONENTS will be changed by technological developments. The biggest changes will be in the electronics area.

—BATTERIES will get smaller and lighter, thanks to research into electric cars. They'll also last longer and pack more amp-hours as more electrical components are fitted and lights get brighter.

—INSTRUMENTS will become digital and grow more thorough. Suzuki's digital gear indicators and GS1100 warning panel are just the beginning. Instrument panels of the late 1980s will be metric instead of English.





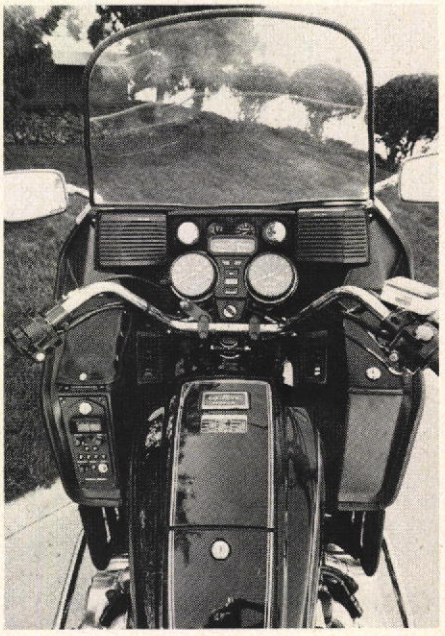
—HEADLIGHTS will get brighter as soon as the government permits it and they will play an increasing role in making motorcycles conspicuous. The DOT recently admitted that the maximum candlepower permitted for cars was about half of what was necessary for safety at 55 mph. Cars will soon have more powerful headlights, but bikes are still stuck with the old maximum until our public servants get around to setting a new standard for us. Logically a bike needs an even brighter headlight than a car since a small object lying in the road can be catastrophic to a bike. Q-switch-type flashers may become standard for daytime use. Motorcycles may be given colored beams to make them more identifiable. A bright yellow fog light, even on a sunny day, really jumps out at you.

—TAILLIGHTS will grow bigger, brighter and more numerous to increase visibility. There may even be special flashing frequencies to attract attention.

—ELECTRONIC DEVICES of all sorts will pop up, especially in monitoring equipment. It may eventually be possible to plug into a machine at your dealer which will tell what needs adjustment or repair.

—LUBRICANTS have advanced a step during the Seventies and will get even better during the Eighties. They'll become more durable and increase efficiency by reducing friction. That will mean longer engine life and better fuel mileage.

TOURING BIKES are just beginning to develop. They will become much more sophisticated and luxurious as the Japanese manufacturers plunge into the market for full-dress cross-country cruisers.



—FAIRINGS offer the most potential for major changes. They will become more integrated, streamlined and stylish. Streamlining will be essential as fuel economy becomes more important. We can foresee a Jacwal-like fairing which flows right into the lines of a one-piece body design. Ultimately, there may be tourers which are almost fully enclosed with roofs over the riders. Old-timers will talk about how they used to "really rough it" with just a Windjammer. We'll call these things two-wheeled cars. Visibility is finally being recognized as an important safety considera-

continued on page 101

THE HONDA CUSTOM SERIES.

THE FASTEST WAY TO DRAW A CROWD. AND LEAVE IT.

ALL SHOW. AND ALL

The light flares across the smooth curving surfaces. A devilish glint appears in your eye as you stare at the motorcycle. Then hesitate. A niggling doubt perhaps. Some whispered myth that any bike looking that good, promising so much, could scarcely deliver. And so you wait patiently. For that one exceptional motorcycle. With startling looks and stunning performance.

Lucky you.

The Honda CB750 Custom is the complete custom. Race proven technology and a ripe, rakish look. The 749 cc engine springs from state-of-the-art designs created for Honda's incredible RCB endurance road racers. Double overhead cams. Four valves per cylinder. Honda's exclusive Pentroof™ combustion chamber. Four 30 mm constant velocity carbs with an accelerator pump. And smooth, effortless power fed through a five-speed gearbox that puts breathtaking acceleration at your command.

This is one custom bike that's built to perform. With a double cradle frame and suspension system that features needle bearings in the swingarm pivot, hydraulic front forks, and two stage rear shocks. The road is your road.

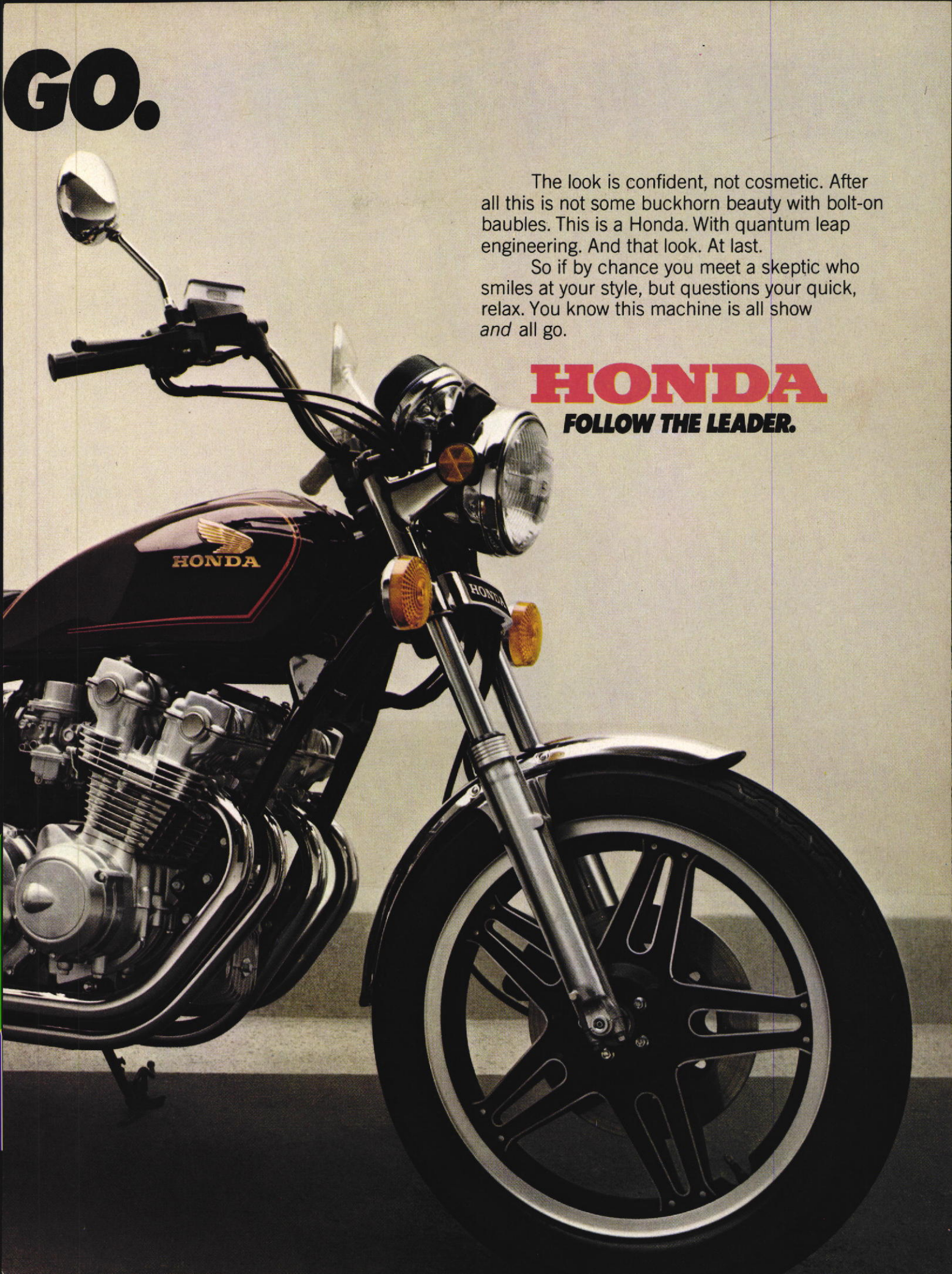
And every inch of the machine says so. The gleaming sweep of pull-back handlebars. The sleek tear-drop tank. The deep carved seat, low and lovely. The legendary four into four exhaust, now in shining chromed trumpets. And the superwide 16-inch rear tire.

The CB750 Custom shows your finesse. Everywhere you look. Stark black instrumentation. Vibration resistant mirrors. Highlighted black ComStar™ wheels. And chrome. In generous supply. Right where you want it.

ALWAYS WEAR A HELMET AND EYE PROTECTION.

For a free brochure, see your Honda dealer. Or write: American Honda Motor Co., Inc., Dept. 42, Box 50, Gardena, California 90247.

GO.



The look is confident, not cosmetic. After all this is not some buckhorn beauty with bolt-on baubles. This is a Honda. With quantum leap engineering. And that look. At last.

So if by chance you meet a skeptic who smiles at your style, but questions your quick, relax. You know this machine is all show *and* all go.

HONDA

FOLLOW THE LEADER.

RED HOT OR LIQUID

Perhaps for some, the idea of a custom motorcycle is relatively simple. Slap a package of bolt-on goodies to a reasonably interesting motorcycle and that's that.

Perhaps for some. But not for Honda.

The 1980 CB650 Custom and CX500 Custom bring a larger meaning to the term. They represent outstanding efforts in both design and technology. The results please the eye, quicken the pulse and boggle the mind.

Slide your eyes up the long front forks, over the graceful sweep of the pull-back handlebars, and along the shimmering, sleek teardrop tanks. Rest a while on the low riding stepped seats, and roll on to the 16-inch rear wheel. Dramatic ComStar™ wheels. Chopped megaphone pipes. And chrome. More than just a splash.

These machines are Custom right down to their toenails.

But it's the heart and soul of these Honda Customs that set them apart from their peers.

Beneath the gleaming surface of the CB650 Custom throbs a proven-powerful Honda classic. The SOHC 627 cc 4-stroke Honda Four is the updated successor to the engine design that started the Superbike revolution.

Four 26 mm carbs, an accelerator pump, and CDI ignition all contrive to give you a machine that is cat quick as well as cat slick. Punch the starter, crack the throttle open and things begin to happen. Remarkably quickly.

Low stiction front forks and two-stage rear shocks make it smooth. Disc and drum brakes

COOL.

make it stop. The clean, positive shifting five-speed gearbox lets you cruise smoothly mile after red hot mile. And lest the blurred image of you on your machine leave anyone in doubt, this Honda Custom sounds the mellow note of that justly famous quadrophonic exhaust.

Across the aisle, the CX500 Custom sounds a different note. A throaty rumble. Urgent. Commanding. It starts deep within the muscular engine and pours out of the upswept pipes.

The rugged 496 cc transverse V-twin 4-stroke is fed by 34 mm CV carbs, sparked by a Tri-Pulser™ electronic ignition, and breathes through four valves per cylinder. With a liquid cooling system for controlled engine temperature. And a fully enclosed shaft drive for a silky transfer of power from the five-speed gearbox. It's every bit as smooth as it is powerful. Handling it inspires confidence. Low stiction front forks, two-stage damping rear shocks and a front disc/rear drum set-up let you tour the town or the turnpike with ease.

And now, for the dilemma. You're faced with a choice between two uniquely satisfying machines. Both sleek, stylish, sure-footed and powerful. Take comfort in the fact that, whether you select the red-hot CB650 Custom or the liquid cool CX500 Custom, either one will leave the competition just a little sweaty.

HONDA

FOLLOW THE LEADER.

ALWAYS WEAR A HELMET AND EYE PROTECTION.

For a free brochure, see your Honda dealer. Or write: American Honda Motor Co., Inc., Dept. 42, Box 50, Gardena, California 90247.

IN THE 1/4 MILE, EVE
IS AS QUICK AS A

The quarter-mile punch of a Porsche 924, in a 400 cc bike? With automatic?

Heresy! Outrageous! Mid-size bikes aren't supposed to act like that. Or do they?

At Honda we stubbornly believe that performance is still the bottom line.

Sure, those boulevard beauties give you more sleek-per-cc than any other 400s around. The trim tapered teardrop tank says custom. The front fork stretches out to meet the road. And stubby chrome megaphone mufflers promise a sound that's mellow and beautiful.

No doubt about it. They deliver the looks you're looking for. As well as performance you may not have expected.

The 395 cc big-bore, short-stroke vertical twin engine is state-of-the-art. A Pentroof™ combustion head for more efficient burn. Two intake valves and one exhaust valve per cylinder for easy breathing. Honda's exclusive Power Chamber™ exhaust system for more low-end torque. Maintenance free Tri-Pulser™ electronic ignition. Special vibration-reducing counterbalancers.

These 400s punch out power smoothly and reliably all the way up to the redline. That's why the five-speed CM400T's quarter mile time will excite you, and even the CM400A Hondamatic™ stays up there with a Porsche 924.

And because they're Hondas, the frame geometry and suspension were designed to satisfy the enthusiast as well as

ALWAYS WEAR A HELMET AND EYE PROTECTION.

For a free brochure, see your Honda dealer. Or write: American Honda Motor Co., Inc., Dept. 42, Box 50, Gardena, California 90247.

EN THE AUTOMATIC PORSCHE.

soothe the beginner. To tangle with twisties and flatten the straights.

The 4.60S16 rear tires put a wide, solid footprint to the pavement, and increase carrying capacity. The hydraulic front forks and exclusive two-stage damping rear shocks pamper you down the freeway. And comes time to stop, you do. With a strong front disc, rear drum set-up. In a word, these machines are supple, and eager performers.

But you're still faced with a choice. The crisp-shifting quick response of the CM400T with five-speed. Or the far-from-sluggish, carefree comfort of the CM400A with Hondamatic.™ It's the only semi-automatic in its class. And it brings a rider new convenience, because we took away the clutch.

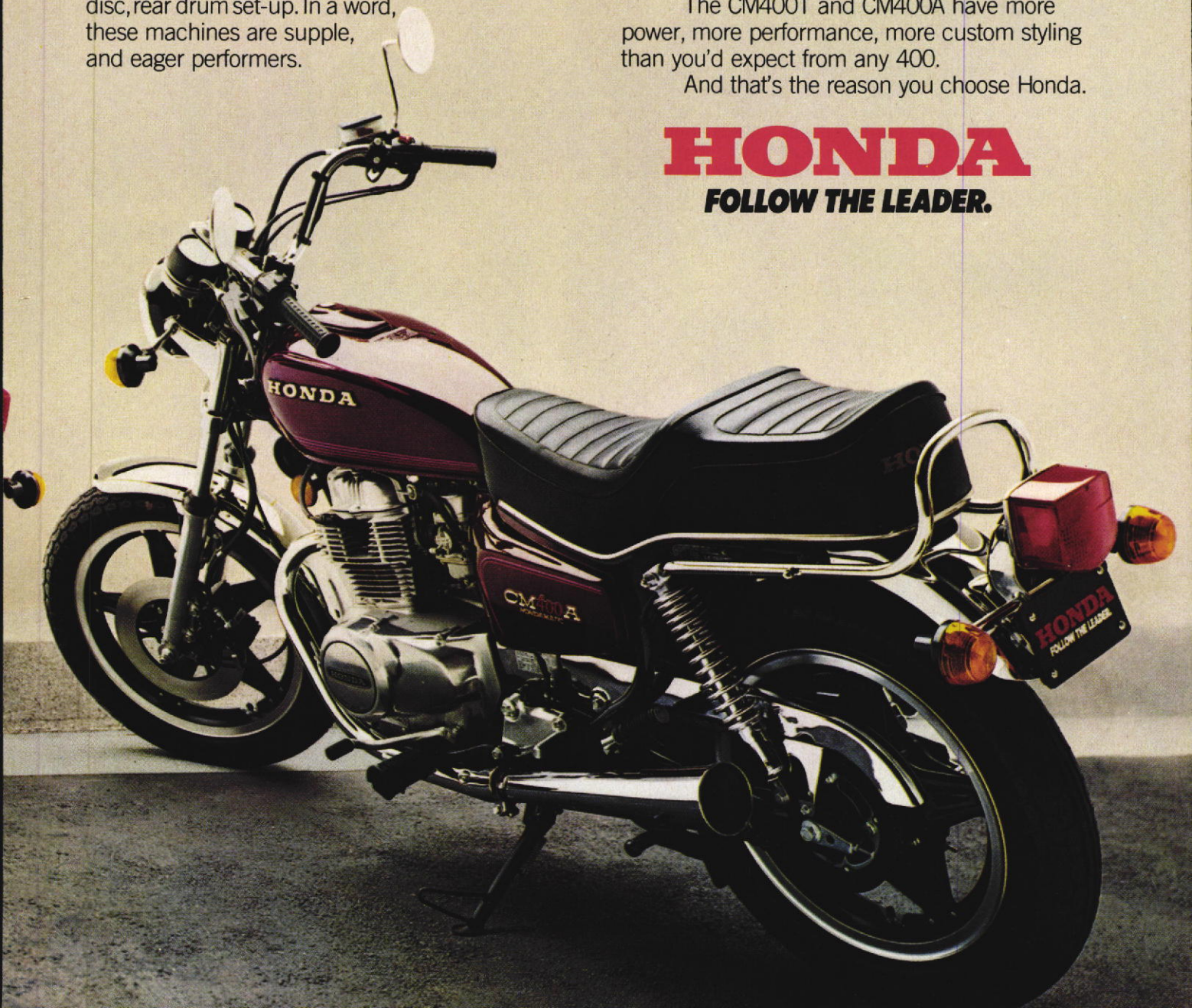
Whichever one of these beauties you settle for, isn't it nice to know that you're not settling for the conventional?

The CM400T and CM400A have more power, more performance, more custom styling than you'd expect from any 400.

And that's the reason you choose Honda.

HONDA

FOLLOW THE LEADER.



RADIO RACER

A Pint-Size Racer With King-Size Performance

By Rich Cox

Here at *Motorcyclist* we've been known to squeeze amusement from just about anything with two wheels, but none has proved more challenging, nor produced as many gut-wrenching laughs, as many devilish giggles and a total sense of ineptitude on the part of several of our staffers as this 1/6-scale electric-powered radio-controlled motorcycle. The 13½-inch long, 3½-pound model racer is called the Elect Rider and it is manufactured in Japan by the Kyosho Corporation and distributed here by Kraft Systems in Vista, California, one of the established leaders in radio control model equipment.

There have been several attempts in the past to market a radio-controlled (R/C) motorcycle, but those first offerings were little more than crude "toys" which wandered around aimlessly under training wheels searching for something to run into. The Elect Rider on the other hand is the first truly sophisticated model which not only looks amazingly realistic, but because of its advanced design, can so closely duplicate the stability and handling characteristics of its full-size counterparts that it is absolutely mind-blowing. Like the big boys, the Elect Rider maintains its balance through forward motion and requires a delicate mixture of throttle and steering to carve through turns. Bury the throttle in tight corners and Mr. Elect runs out of traction and slides out; not enough power and he topples over. just like the real thing. Until you become really proficient, we suggest you use the bolt-on "crash bars" supplied with the bike: they prevent the machine from tipping completely over and scarring the bodywork during the learning process. However, once these crutches are removed, piloting the Elect Rider really becomes challenging and exciting. Pushing the bike to its limits, you can dazzle onlookers with wild rear wheel slides, front-end washouts and classical high-speed wobbles—as exciting as the real thing.

If you're into authenticity and realism, the Elect Rider will amaze you, for it's patterned right after the full-scale jobs. It has a stamped steel frame with a "live" swingarm, telescopic forks and shocks that actually work, make-believe front disc brakes, a real live pint-size drive chain running off a reduction gearbox, genuine cast-alloy wheels and solid rubber triangulated racing slicks. The bike comes fully attired with a clear plastic fairing and tank/seat combo—which you can paint and spice up with the included decal sheet. And what racer would be complete without a fully garbed and helmeted rider? Although he rides along mostly for aesthetic purposes, he does serve one vital function: his hollow chest cavity is the ideal place for housing the radio receiver.

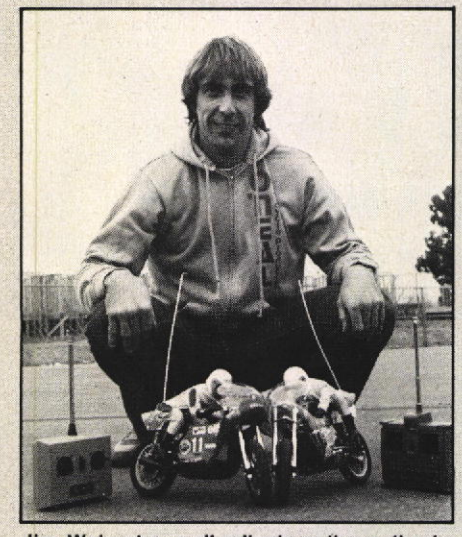
The guidance system is provided by a Kyosho Panther KF-202 two-stick, two-channel radio. The transmitter's left stick operates the throttle, the right stick feeds steering input. In this case Elect Rider's throttle is a servo-actuated variable resistor, with proportional electric brakes which operate as the left transmitter stick is pulled back. The motor system—like the steering—is fully proportional, which means the Elect Rider will accelerate, decelerate and turn in direct proportion to the degree of control stick movement. Under an inexperienced driver the Elect Rider will likely wander off in all directions like a lost child, but after more practice you'll find yourself stuffing the bike around obstacles with all the control and precision of a veteran GP racer. Launching the bike

PHOTOGRAPHY: RICH COX

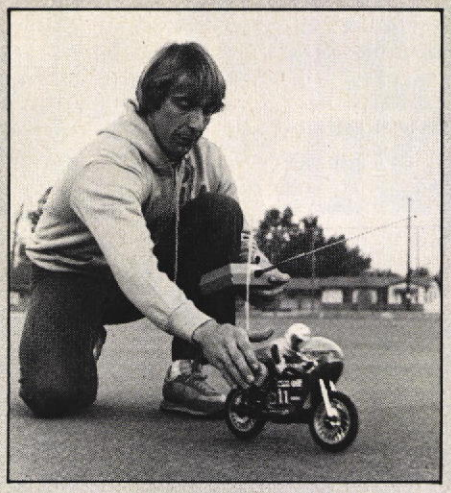
into action is no problem: just a gentle shove with a little throttle sends it zipping into action.

A Mabuchi RS-308S drive motor supplies power to the rear wheel and three pinion gears (10, 12 and 15 teeth) are furnished so you can gear up for higher top speeds when you become an "expert." You want to know how fast it is, right? Well, with a claimed top-speed potential of around 25 mph, let's just say it has no problem running down just about any four-legged (or two-legged) critter found on the average block. For its size it accelerates incredibly hard and will invariably produce a round of oohs and ahs from the peanut gallery. No it doesn't wheelie—as one staffer thought it might—that's something for the motor-winders to shoot for in the future.

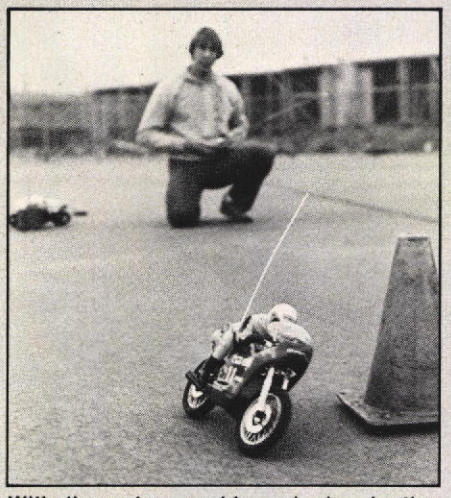
In reality though, it is the innovative patented semi-direct steering design which gives Elect Rider its amazing balance. An unmanned model obviously requires more stability than the real thing, which is why the steering system is quite unconventional. The Elect Rider's forks actually flop back and forth in the steering head without any restraint whatsoever, and it is the complete steering crown—forks and all—which actually tilts, pivoting at a point just under the handlebars. Steering isn't nearly as quick or precise as a real motorcycle, but this system provides the added surefootedness a humanless racer needs. Handling is, however, strikingly similar to its full-fledged brothers: the bike turns progressively slower as the speeds increase and the little fella won't start turning sharply until it is slowed down to a realistic speed. We suggest you give yourself lots of room—like a parking lot or school yard—when you start out, but once you become experienced you'll find the Elect Rider's turning radius can be as little as 20 feet at speed.



Jim Weinert proudly displays the author's test bike and his own personal racer, as yet still unpainted. Weinert was one of those "natural born" R/C'ers.



Just a gentle shove with a little throttle sends Mr. Elect Rider looking for action. Beware of frequency conflicts with other R/C'ers in the vicinity.



With the antenna whip swinging in the breeze, Weinert bends Elect Rider into a hairpin turn. As one staffer commented, "It's almost *too* much fun to handle."

In most cases Elect Rider will scale jumps up to eight inches high with controlled landings—here Weinert does a cross-up for the spectators.

Despite its suspension system—which works better in theory than in reality due to overly stiff springs—the Elect Rider requires a relatively smooth, paved surface for best results. After all, it is a model and can't roll over such obstacles as driveway lips, gaping asphalt cracks or potholed surfaces. It does have all the unpredictability of a real motorcycle though: you can fly the Elect Rider over jumps five to ten inches high with successful landings, and yet at high speeds it takes little more than a small twig or rock to throw Mr. Elect into the nastiest, bone-jarring cartwheels you've ever seen. We were surprised, however, with the durability of this little guy; it's not as fragile and breakable as it may appear. We ram-rodded car wheels, T-boned curbs, endoed frequently and assaulted every bush around our office chasing the resident alley cat—all without a single fatality. If by chance you should have a disfiguring crash, Kraft offers a complete line of replacement parts.

The Elect Rider's drive motor gets its electrical power from a six-cell, 600-mah rechargeable nicad battery pack which resides underneath the bike's bellypan. Kraft claims it will supply approximately 20-30 minutes of running on a full charge, but we couldn't squeeze out more than ten minutes on ours. Kraft offers both an optional 12-volt Fast Rate Charger ($24.95) which plugs into your auto's cigarette lighter and recharges the

RADIO RACER

pack in 15 minutes, and also a Home Wall Charger ($9.95) which, when plugged into a wall outlet, will replenish the pack in roughly ten hours.

The Elect Rider is indeed a formidable challenge even to the veteran R/C expert, but we found it well within the abilities of the complete novice too. Motocrosser Jimmy Weinert was so impressed with our test unit that he immediately requested one as a Christmas present. Even though he had never "tickled" the sticks before, he had it mastered in several hours. Jimmy even handled all the driving chores during our photo session. The Elect Rider is a blast by itself, but pit it against some competition and it gets totally insane; it's going to open up a whole new facet of R/C racing.

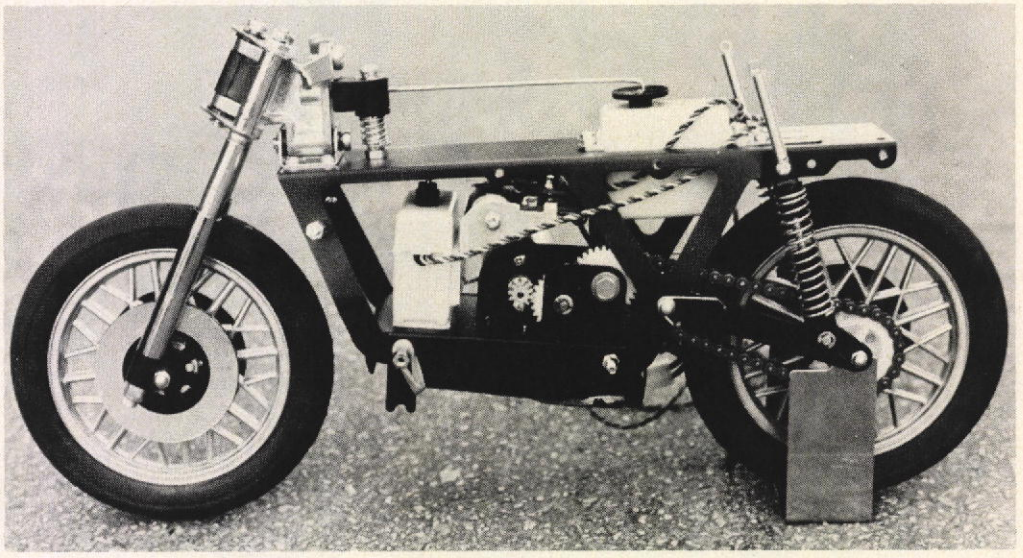
The Elect Rider is available through most hobby dealers in two versions: For $249.95 you can purchase the complete "ready-to-run" motorcycle which includes the bike, radio gear, battery pack and quick charger; or for $89.95 you can buy the basic Elect Rider motorcycle kit, less the R/C gear and optional $24.95 battery pack and quick charger. Any two-channel radio—like the $140 Kraft KP-2A system used with our test model—with servos of like physical proportions can be used.

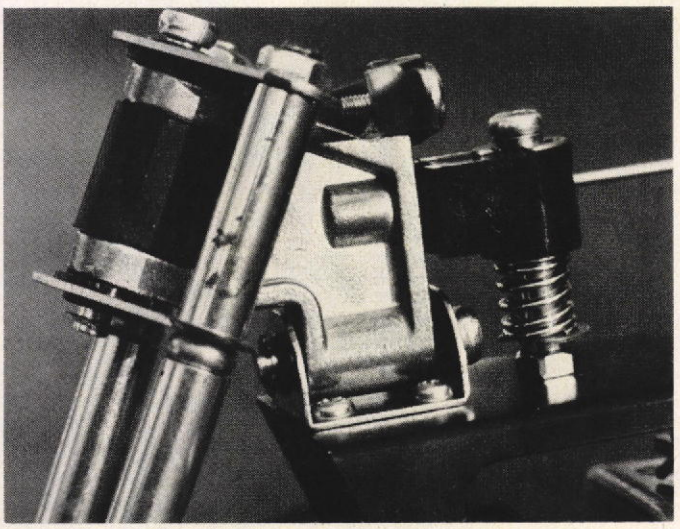
If you feel like trying one, talk a friend into one too—the fun doubles with numbers. *M*

Above—Tiny chain drives a likewise tiny nylon sprocket. Neat little centerstand is included with the bike.

Right—Top servo actuates steering, the bottom works the throttle. The entire gearbox module slides to facilitate chain adjustment.

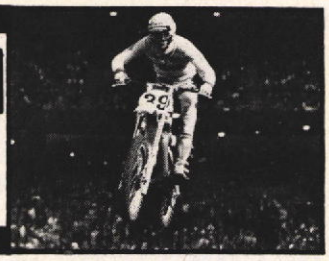
Below—Tiny receiver is hidden inside rider's chest. Kraft radio has the convenience of interchangeable frequencies—the Kyosho system does not.





Above—Here's the ingenious steering device which converts fore and aft servo movement into fork tilt. Rubber block cushions the steering stem from hard impacts.

SPORT



Who Will Win The Supercross Series?

By Jim Gianatsis

The growth of the AMA-sanctioned Supercross Series in America is running at full throttle with no signs of backing off. Ever since rock concert promoter Mike Goodwin suffered what seemed like brain fade at the time and tried stuffing the outdoor sport of motocross racing into the Los Angeles Coliseum, the popularity of this new type of motorcycle racing has skyrocketed among a type of fan the sport had never seen before, the general public and not just the everyday enthusiast.

Since that first race in 1972 which was won by a young kid just turned 16 named Marty Tripes riding a factory Yamaha, the Supercross Series has expanded by leaps and bounds. For the 1980 season the Series will consist of 15 different races held at ten different stadium locations across America. The cities included are Seattle, Oakland, Atlanta, Daytona, Houston, Pontiac, New Orleans, Kansas City, Los Angeles and Philadelphia. This past year, 1979, saw the Series play to near sell-out crowds at the Los Angeles Coliseum and Anaheim Stadium while other locations like Atlanta, Daytona and Houston were on the verge of selling out and could possibly do so with the expected attendance increases this year.

We're here to give you a look at what to expect for the 1980 Supercross Series, so hold onto your handlebars. Besides the expanded growth of Supercross, the one other thing we can be sure of is the difficulty of picking a winner. Unlike the previous three years when the Series was dominated by Team Yamaha's Bob "Hurricane" Hannah with his berserko riding style and an extreme desire to win, it's now a whole new ball game which almost anyone could win. The reason is that America's top rider, Hannah, is still suffering from complications in the healing of a broken leg which he received in a water skiing accident last August. Ironically, the boat towing Hannah when he highsided on some water-hidden rocks was being piloted by none other than Marty Tripes, off-track buddy, but at the time, on-track arch rival on Team Honda.

Marty Tripes was considered by everyone, including Hannah, as being the fastest motocrosser on two wheels when he wants to be. Fortunately for Hannah, and unfortunately for Tripes, who has been known to throw a tantrum or two when things aren't exactly to his liking, those times of wanting to win can be far apart. At the time Tripes was out water skiing with Hannah, Team Yamaha just so happened to be pulling off one of the most outrageous coups in American motocross by signing Tripes away from Honda to partner with Hannah in the 1980 Supercross races and outdoor 250cc Nationals. With Hannah now out of action the expected double-barrel sweep of the Supercross Series this year by Team Yamaha is no longer a major threat. And with Tripes' well-known sporadic batting record the Series can be expected to be a wide open free-for-all battle to the winner's circle.

Of the teams and riders to keep our eyes on we should, of course, begin with Team Yamaha which has dominated the Supercross Series the last three years. Even without Hannah they'll be tough. Expect to see Marty Tripes and teammate Mike Bell posting a couple of wins. Tall and lanky "Daddy Long Legs" Bell was one of the top runners in the Supercross Series last year and has to be considered a major threat at every race with his usual strong and consistent finishes. Whereas it is nearly impossible for Tripes to put together enough top placings to pull off the Series title by the end of the year, Bell is always a favorite for pulling off a Championship. In 1979 Bell placed second in the 500cc Nationals be-

Marty Tripes and Bob Hannah have been long-time rivals on the track but great friends off. Both now ride for Yamaha.

The new teamsters, Tripes and Hannah, won't get to dice it out much in '80 because Hannah's broken leg isn't fully healed.

PHOTOGRAPHY: JIM GIANATSIS

SPORT

Supercross

hind Suzuki's Danny LaPorte and was third in the Supercross Series behind teammate Hannah and Suzuki's hard charger, Kent Howerton.

Which brings us to Team Suzuki and Kent Howerton. At this moment, with Hannah out of action, the "Rhinestone Cowboy" has to be the hottest rider in American motocross. Howerton was actually runner-up to Hannah in the 250cc Nationals last year, picking up speed throughout the Series to the point where he was clearly as fast as Hannah, even beating him at the final race. Howerton also won the United States 250cc Grand Prix at Unadilla and then last fall won the Trans-USA Series, the only other American besides Hannah to do so. Howerton finished out the 1979 season by winning The Superbikers, an Olympic-type event on dirt and pavement.

While Kent Howerton may be the top rider in America now and the odds-on choice to take the 1980 Supercross Series Championship, he isn't the only rider at Team Suzuki capable of winning races. Add to the list Mark "Bomber" Barnett who won the Superbowl of Motocross last year in the Los Angeles Coliseum. Barnett has just graduated up from the 125cc class ranks and the 19-year old youngster wants to prove he can run with the big boys. And after a season as team rookie, Darrell Shultz should have the confidence and the smoothness to go together with the speed he already has on tap.

Over at Team Kawasaki is another youngster graduating up to do battle with the big boys and he should be capable of a few surprises. That rider is Warren Reid, who has ridden for Team Honda since 1976 and made the move to Kawasaki this year for a better position with more money. Reid's move from Honda seemed to create a lot of bad feelings between the two, so Reid will be trying hard to prove he made the right choice in going to Kawasaki by doing well.

And though no matter how hard we might try, we can't overlook "Jamming" Jimmy Weinert the arrogant old man of American motocross and Team Kawasaki. Just when we think he is ready for retirement the 1976 Supercross Series champ always seems to come up with one more surprise out of his bag of tricks. Last year at the Oakland Supercross he won using a unique never-tried-before paddle tire on the all-sand track, leading the race from start to finish. Two weeks later the AMA banned the tire because it threw too much sand, blinding any riders trying to follow in its wake. Then there was the exciting Daytona Supercross where Weinert came out of nowhere on the last lap to pass Hannah for the win just four corners before the finish.

The other major factory team involved in Supercross is Honda. They weren't too happy about Marty Tripes leaving them for Yamaha, but they still have a strong team nonetheless. Tops on the list is "Texas Tornado" Steve Wise, now the senior member of the American Honda Team and the favorite for both winning a couple of races during the year, and perhaps even stringing together enough good finishes to grab the 1980 title of Supercross champ for himself. Wise didn't post any major wins last season, but he was runner-up so many times behind riders like Hannah that a year more of experience

Winston Pro Series: Springer's Health Vs. Eklund's Speed

By Roxy Rockwood

If you look and listen there is both good news and bad news for the 1980 version of the AMA National slate, again known as "The Winston Pro Series." The two Houston events, plus the Daytona roadrace, are already history. They mean a lot of dollars to the top finishing riders, but not much when it comes down to who is going to take the Grand National title and the No. 1 plate.

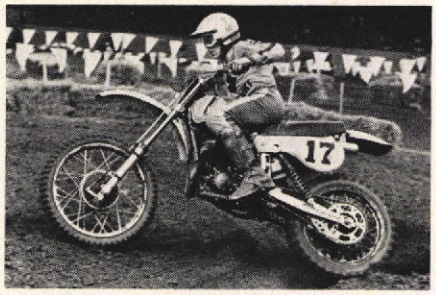
The Winston schedule has stabilized a great deal in recent years. Yes, they still add or subtract a few races from season to season but the majority are there year after year. The promotional ranks have their dreamers just like would-be racers. But times have changed and no longer can one simply write in or call for a National event. They cost money to create, operate and pay the purses, though purses are still off the inflation pace.

Twenty-three of the listed events for '80 are dirt track affairs, Short Track, TT, Half-Mile, Mile. The big surprise is that the AMA is listing, with few confirmed, no less than nine

Supercross racing pioneered the system of qualifying heats and one winner-take-all main event. Spectators seem to prefer this Winston Pro type format to three motos.

and training should now be ready to pay off. There are also two new riders at Team Honda who deserve to be watched. They are brothers Chuck and Ron Sun. Chuck is the older and more experienced of the two, having raced the 500cc World Championship Series in Europe last year. He is very excited over making the graduation to a big team like Honda and is very pumped to win.

Besides the riders, you'll want to keep an eye on the exotic factory works bikes the major teams will be using. Team Yamaha's monoshock OW machines have to be considered the most reliable and refined of any of the works bikes on the track. The Team Suzuki bikes are fairly conventional in design, the factory engineers being somewhat skeptical when it comes to trying out new ideas, but the RH250 works bikes are still hand-built and just as exotic as any of the other factory bikes. Kawasaki has its Uni-Trak bike which was introduced last season and though it has suffered a few teething problems, it is just as competitive and capable of winning as the other bikes. The newest and most exciting bike is the Honda RC250 Pro-Link. A more refined version of Kawasaki's Uni-Trak, the Honda Pro-link, has a variable leverage ratio rear suspension like Kawasaki's design to provide better rear wheel control. When the



With Bob Hannah out, Kent Howerton will be the rider everyone else tries to beat.

Honda Pro-Link was introduced at last November's Anaheim Supercross, it was with an exotic watercooling system on the engine which may not be used in 1980 Supercross events since watercooling really isn't needed in the shorter motos of Supercross where overheating isn't a problem.

Supercross racing will be more exciting in 1980 than in any previous year, particularly since it is now receiving more emphasis by the major factory teams because of the huge crowds and the increased publicity involved. The outdoor motocross Nationals may help sell motocross bikes to the enthusiast fans who follow the sport on a regular basis, but Supercross racing reaches both the enthusiasts *and* the general public. And it is the general public who buy the street bikes—and street bikes are where the real money in motorcycling is made.

---

roadraces, not counting the non-National FIM event running each year at Laguna Seca.

While the AMA appears not to be listening to the demands and suggestions to add, subtract or change engine sizes, it appears that they have heeded the cry from dozens of amateur/sportsmen roadracing individuals and groups for more roadraces. But seven of the listed nine were not-for-sure types early in 1980. For the past four years the No. 1 rider in the final points has not been a roadracer. Three of those four years the title went to a rider who has yet to score a single roadracing point in National competition (Jay Springsteen). So it appears that the AMA slate has indeed become a two-category affair and it no longer holds water that the American champion has to be an all-around rider. Regardless, the entire slate awards equal National points for all events this year, but it appears that those riders with a real shot at the title will seldom, if ever, be seen roadracing.

The moment of truth again appears to be on the Mile and half-miles, where the combined total is 15, nearly half the schedule, and two-thirds of all the dirt events that count toward the title. The fan and rider alike will appreciate the fact that 19 of the events are under lights instead of a hot sun.

continued on page 97

Why did Bob Larkin buy the KZ440LTD with its 58*mpg?

Because Bob always believes in going the distance.

When Bob swung a leg over the KZ440 LTD and settled down into the high-step, dual-density cruising seat, he knew he was on a winner. The pullback bars seemed to reach for his hands. And a tap on the electric starter brought the call of the road from dual mega-phone mufflers. Who could resist? Its 443cc overhead cam engine with constant-velocity Mikuni carbs delivered plenty of torque, so he could accelerate quickly and cruise effort-lessly. Bob liked the fact that it was Kawasaki-reliable. And he appreciated the advantages

Kawasaki believes in riding safely. Check local laws before you ride. Member of AMA and MSF. Specifications and parts subject to change without notice. Model availability may be limited.
*Information available upon request.

of a silent cam chain with automatic tensioner. After all, there are better things to do on campus than to spend your free time working on a motorcycle.

When it came to handling, the KZ440 LTD exceeded his expectations. Precision-damped front forks and needle bearing swingarm gave him a real feeling of control and security. So did the drilled front disc brake. The fat rear tire provided lots of traction, and Bob sat down low with the center of gravity right under him. Riding it was a breeze—and sheer pleasure with a close friend on the back seat.

When you stop by your Kawasaki dealer to see the slick looking KZ440 LTD, be sure to see both the chain drive and belt drive models. You might even take a look at the new KZ250 LTD. It's a little smaller, but it's got some big numbers going for it. For openers, how's 80.2* mpg grab you?

KZ250LTD

Kawasaki

Don't let the good times pass you by.

Satisfaction, Camel Filters style.

Some men taste it all: Rich warm flavor. Smooth even taste. Solid satisfaction.

Only from the Camel Filters blend of Turkish and domestic tobaccos.

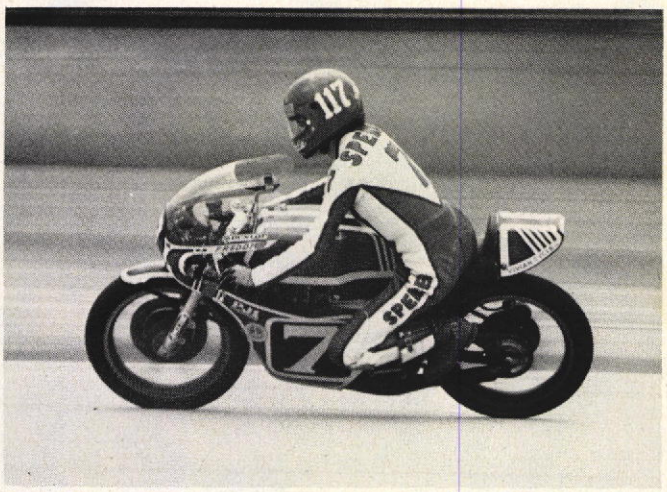
SPORT

Winston Pro Series

The Winston Series still has more to offer than any other from the standpoint of talent. Last year no less than 14 different riders won major events. What other form of racing can say the same? All 14 are back again in '80, plus a lot of talented first-year rookies and some veterans who should have/could have won and didn't. But up front the man to beat in points is the new champ, Steve Eklund. You notice I did not say the man to beat from race to race, because those days are gone, at least for the present. Eklund is the type of rider that rides them one at a time and keeps a close check on his points and the few other riders that are close to him. Nobody wins them all, never has, and never will. Eklund is accomplished in all four of the dirt-track events. He could have been a better than fair roadracer but he watched Jay Springsteen win the title three years in a row without ever scoring a roadrace point. He then went out and beat Jay at his own game last season.

Springsteen, like all others before him, rode a wave of good luck for several years before it turned sour last season, starting with the first race of '79 when he was smacked from the back in the Houston TT,

Most of America's Miles and half-miles are run on horse tracks at the state fairgrounds. There are seven Miles this season.



Watch for this teenager, Freddie Spencer, to make Honda a threat in U.S. superbike racing and European GP roadracing.

SPORT

Winston Pro Series

causing internal problems, or adding to them, whichever you choose to go with. As late as January Jay was still far from 100 percent healthy. Even doctors at the famed Mayo clinic could not diagnose the cause of Jay's gastro-intestinal ills. If Springsteen is going to regain the title he will have to be healthy. The Harley factory has stated for several years that they do not build magic machines, just good and reliable ones. The rider must do the rest. But nobody wants to believe them. Except Steve Eklund.

Harley is again going with two fully sponsored riders, Springsteen and Randy Goss. To know Goss is to like him. He has that attitude of the young, does not appear to let a setback get him down, does not blame defeats on his mechanic, remembers his sponsors and appears to ride them one at a time without going to any track with a negative attitude. He fought all the way last year to stay with, or pass, Jay and Steve in the points. He came close but had some bad luck around mid-season that knocked him out of the chase.

Goss replaces Steve Morehead on the orange-and-black team. Steve only served one year, doing some winning the last half of the year in what was probably his best bottom-line season as a pro. Ex-team riders usually fade away for one reason or another. But I don't think that Morehead will fade like some may think. He's a Miler and a better-than-good half-miler when he wants to be. He will not win the title this year but mark him down to do at least as good as he did on the circuit last season.

Who is going to challenge Eklund, Springsteen and Goss, the top three in '79? Probably nobody on a month-to-month basis but certainly from race-to-race there will be a lot of winners. Guys like Hank Scott, Mike Kidd, Ted Boody, Corky Keener are all main eventers who can win on a given day or night but for one rea-

son or another have never put it all together. Every form of racing has them and they are a vital part of any racing scene.

You notice that I did not mention Gary Scott nor Scotty Parker. It's for a reason. The two Scotts will find it an up-and-down year. Gary Scott failed to win a single National for the first time in his career. The old mechanical bugaboo cropped up again for the rider that will have to show change and improvement in '80—or perhaps call it quits. He is going back to roadracing once again, at least for a few selected events, but still has not found the man with the wrenches that can keep him going fast from start to finish. The one-man battle to try and do it all may do him in this year unless there is a big switch from the previous two seasons of trying to go it alone and going through mechanics.

Scotty Parker was the usual rookie kid on the block last year that just turned and turned the throttle, making mistakes, falling down, placing high and winning two to grab the No. 1 Rookie spot. But '80 will be the true test of what he learned last season. He was in the class of the newer dirt-track riders a year ago—but the spotlight is always on fast beginners. Now Scotty Parker is rated as a veteran and only time will tell.

New Rookies, Bob Crabbe (PA), Buba Shobert (TX), Gene Church (NC), and Dave Jones (OK) ranked as the Juniors last year who could go fast on a half-mile or Mile. One should pop up at season's end as the top-ranked Rookie. Freddie Spencer was also a top Junior half-miler last season but won't be a full-fledged Expert bidding for Rookie Of The Year honors. His twin entry at Houston will be his only dirt track attempt this season as the big bucks from Honda lured him to Superbike roadracing and 250 racing in Europe for the year. His won-lost average was the best in the Junior dirt ranks last season and missing out in '80 just about writes him off for contention later if he should ever change his mind.

While Honda is eyeballing the pavement, Yamaha has contracted Mert Lawwill to build some 500 dirt singles for new Junior, Jim Filice (CA) and veteran Rick Hocking. Both ride TTs for the yellow-and-black with Filice slated for some ovals on the same machine, ala Jeff Haney

SPORT

Winston Pro Series

last year for Honda. Filice ended the '79 circuit as the high point No. 1 Novice in the land, scoring in three different types of dirt racing and winning the title by a wide margin over the rest of the first-year field.

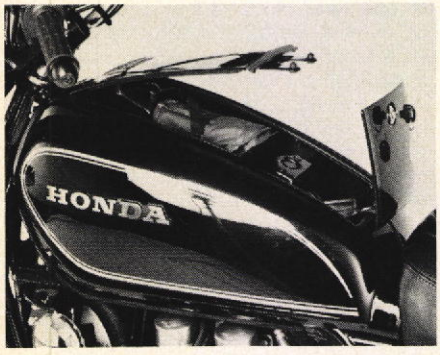
Roadracing is going to sink-or-swim this year from all early indications. While many of the National roadraces listed are not confirmed, there are enough that will be run to find out just how many clubmen roadracers really want to try for money this year. Roberts, Randy Mamola, Skip Aksland, Dale Singleton and Spencer are all committed to Europe for most of the season. This is the cream of the proven crop and evidence of a trend that shows top riders learn in the U.S. and leave the best of the rest to try and make a name for themselves—before they head for Europe. If American roadracing is simply going to be a training ground for supposed better things elsewhere then it is not going to work. The masses will come only to see the Experts; friends and family alone will pay to see the beginners. It may come down to Daytona and Laconia in the next few years.

You may have read in recent times some gloom and doom indicated regarding the National dirt/roadracing circuit. I have faith in the fact that we have enough people involved in racing to put aside what they have, or would like to have, to make changes and try new things. The racers themselves, as a group, are better than ever. They can and will put on the side-by-side racing that has set them apart from the rest of the racing world as they do it with style and most of all, they do it with speed. The Winston Series has produced new talent every single year. There are numerous riders out there now that you may not have heard of—but you will before season's end. Some of us know who they are as we have had the chance to follow them for the past one or two years. Bigger and better things are on the way, and not far away. Heading into 1980, R.J. Reynolds had dumped a half-a-million dollars into National racing. More is on the way this year and next year and the year after that. As for 1980, it will be Springer's health vs. Eklund's speed. M

THE FUTURE
continued from page 80

tion and it will become more important in fairing design. If Joan Claybrook and her successors have their way, we may see a drive for built-in passive restraints including (shudder!) airbags.

—STORAGE AREAS will probably shift locations as they become more integrated into the total motorcycle design. Fuel will be carried in other areas—as on the Gold Wing—and other components will be shifted to new locations as well.



—ON-BOARD COMPUTERS are really taking off in the automotive world and we suspect that they can't be too far off for touring motorcycles, say the 1983 Gold Wing. They will tell you digitally anything you want to know about distance to destination, fuel reserve, suspension settings, speed, altitude, load, time or engine condition. If the old Super Slab (which will continue to wear out rapidly in the 1980s) gets boring, you can ask your computer questions or maybe even play blackjack.

—OTHER FUTURE FEATURES may include gizmos like hydraulically actuated, self-leveling centerstands. Or how about a sidestand which retracts when a gear is selected when the clutch is pulled in? Or an oil reserve that automatically adds oil when it's needed and automatically lubes the chain? Maybe we'll finally even hear decent horns.

TIRES have advanced tremendously in the past five years. The original equipment tires on most Japanese street bikes are no longer slippery, short-lived rim-protectors. Now they compete with the European brands—and sometimes come out ahead. The advances in dirt tires haven't been quite so dramatic, but they have been steady and there are more to come—mostly concerned with traction and longevity. The latter will become increasingly important to tight-budgeted dirt racers. The activity in tire development among the various companies producing bike tires is almost frenzied. We are sure to see quick progress—especially in the strong street bike market.

—TUBELESS TIRES have just come into their own in motorcycling. They are lighter, build less heat and go flat more slowly. If plastic or other one-piece wheels come into use on dirt bikes, tubeless tires may soon be skidding along berms to improve handling by reducing unsprung weight. Because they aren't likely to blow out, tubeless tires will become almost universal on street scooters.

—SELF-SEALING TIRES are currently available from Uniroyal on some 1980 cars. They use a layer of sticky natural

continued on page 102

THE FUTURE
continued from page 101

rubber that stays fluid and flows into punctures, reportedly sealing 90 percent of all would-be flats. Dunlop also has a system for self-sealing using a thermo-elastic polygel to seal punctures. Think of the safety and convenience.

—RUN-FLAT TIRES are already available from Dunlop for automobiles. Basically the "Denloc system" holds the tire on the rim even when flat, giving it a limited ability to drive on while flat. It appears to offer a safety advantage since it would help maintain control after a blow-out, but we don't know if it will be applied to bike tires.

LEGISLATIVE TRENDS

With 1984 coming up shortly, the bureaucrats who make all the unreasonable rules and regulations (you know, the ones you never voted on passed by people you never voted for) will want to whip up something special for the occasion. Motorcyclists are going to be handy whipping boys. Some observers predict that the Eighties will be the decade of bureaucratic backlash. Perhaps motorcyclists, who have the most to lose by remaining silent, will spearhead the attack on the near-sighted, uncaring, budget-mongering, blundering bureaucracies. If you're not prepared to fight The System, here are some of the depressing possibilities which await you.

NOISE REGULATIONS, primarily a bureaucratic response to those bozos who hacksaw their mufflers or who install loud accessory pipes, will make bikes quieter, heavier, slower and more expensive. They could very well put Italian and British bikes out of the American markets once and for all. And they will give fits to Harley-Davidson, which has been spending heavily on ways to quiet their V-twins. The EPA seems unconcerned about possible job dislocation—in Europe or America.

What effect will these regulations have on the noise created by motorcycles? Virtually none. The jerk who saws off his muffler will do it anyway—even if accessory pipes are made illegal. And there will be more buyers who will turn to their hacksaws and drills because they want a motorcycle which "sounds like a motorcycle." In other words, stiffer noise standards for new motorcycles will, in our opinion, be extremely counterproductive. So what is the EPA doing about putting some teeth in the laws against muffler-switching (which is what leads to complaints from citizens in the first place)? As far as we know, absolutely nothing. It's the perfect bureaucratic operation: Make a dozen new problems without solving the original one. Any existing motorcycle noise problem is one of enforcement, not of regulation. Want to tell them how you feel? Write the U.S. Environmental Protection Agency (such a benevolent name), Washington, D.C. 20460.

THE CALIFORNIA AIR RESOURCES BOARD (CARB) has some real nightmares waiting in the wings—even if you don't live in California. This gem of a bureaucracy has come up with the tightest regulations, standards and equipment requirements of any state in the union. So far, they have been content with dealing with four-wheelers. However, they've made some big bungles and pulled some just plain bureaucratic pettiness even with cars. Some of the people in the organization have agreed unofficially that some of their standards were unnecessary and admitted that they saw them through simply because they had too much time and money invested in pushing them to give them up when enactment was in sight. But you say you don't live in California, so you shouldn't have to worry. Bad news: It probably won't be possible for motorcycle manufacturers to make special models for just one state. Nor can they afford to drop out of the lucrative California market, which comprises nearly 20 percent of the industry's financial flow. Here's what the CARB is working on:

—STIFFER EXHAUST EMISSIONS STANDARDS, reportedly five times stricter than the existing EPA standards, are the first presents the CARB will hand bikers during the 1980s. Due in 1982, this little bomb will reduce power and increase cost. Allow at least a week for warm-up and pity the engineers who have to make motorcycles run under these conditions.

—EVAPORATIVE EMISSIONS STANDARDS are another real pleasant little possibility, slated for 1983. Perhaps while under the influence of other kinds of vapors, somebody got to worrying about what happens to the vapors evaporating from the fuel tank, etc., of a parked vehicle. So the CARB came up with a limit for how much emissions a vehicle could give off when it's just standing with the engine off. Most of this just comes from fuel evaporating, although tires, seats, rubber pieces, air fil-

ters, etc., all give off some hydrocarbon emissions. The evaporating fuel could be caught in a canister to prevent it from entering the atmosphere. That doesn't sound too difficult to deal with does it? Although the canister must be fairly large, it will probably be possible to find a place to put it, perhaps a backbone tube. When the engine starts, the vapors are drawn into the engine and burned before entering the atmosphere. That's where the trouble begins. The unburnt fuel drawn from the canister richens the mixture when the engine starts, making the bike run too rich to meet the *exhaust* emissions standards. In fact, in a small engine, there's some question of whether the initial influx of raw fuel will even permit the engine to run cleanly. And you scoffed when someone said the government was trying to illegalize motorcycles.

—FILL PIPE REQUIREMENTS are the most insidious of all CARB's motorcycle mayhem. Californians have become unhappily familiar with the spring-loaded rubber seals fitted to most (eventually all) fuel pump nozzles at gas stations. These are intended to seal around the gas tank filler hole to prevent the escape of vapors during fill-ups (although in practice they also seem to cause a larger than normal amount of gas to be spilled). To work, they need to mate to a filler orifice that they can seal against. For the tank to get completely filled, the opening must be at the end of a pipe of some sort because the pump shuts off when the gas reaches the nozzle. In cars a pipe is a normal part of the design, leading from the tank at the underside of the car to a convenient location for the filler opening higher in the body. On a bike, a pipe long enough to be effective would stick two feet up into the air above the gas tank. That creates an unacceptable styling problem—especially to the riders in 49 states where the fill pipes aren't necessary in the first place. More importantly, it creates an even less acceptable safety problem. (Wait until you leave part of your anatomy hanging on a fill pipe in a sudden stop). So why not make a fill pipe that extends to fill, then slides back into the gas tank when you're done? The biggest of several problems with this idea is that as soon as you overfill slightly and get the gas level somewhere up in the fill pipe, the gas will run all over the place when you retract the pipe back into the tank. It is obviously unnecessary, stupid and probably counterproductive from the word go, but CARB may force this on us just to avoid losing bureaucratic face. This challenge will be hard enough for the Japanese to meet. Imagine what the Italians are going to do. No more California Ducatis, Guzzis, Laverdas, etc. No more accessory tanks. Do you have something to say to the California Air Resources Board? If it's unpleasant, we urge you to send it to 1709 11th St., Sacramento, CA 95814.

SAFETY LEGISLATION will keep coming at us, sometimes with frightening "solutions" to problems which are misunderstood by vote-hungry state legislators.

—PASSIVE RESTRAINT SYSTEMS, having been rammed down the throats of autoists at their expense, will likely be directed at motorcyclists. Seat belt proposals are probably a thing of the past, but the NHTSA has done some test crashes of

continued on page 105

Order Your Tickets Now For Super Exciting

Supercross

AMA SANCTIONED

HONDA

Pontiac Silverdome April 26 & 27

Special VIP reserved seats $10. General admission $6 & $8. Kids 12 & under half price. All tickets $1 more day of races. Mail orders to: Pontiac Silverdome Ticket Office, 1200 Featherstone, Pontiac, MI 48057. Include $.50 per order handling charge. To charge tickets call: (313) 857-8000.

CHAMPION · BELL HELMETS · BEL-RAY · GOODYEAR · PARTS GALORE · SCOTT USA

New Orleans Superdome May 3 & 4

Loge VIP Boxes $15; Loge Reserved $10; Kids 12 & under half price. General admission $7.50 — Kids 12 & under $1. All tickets $1 more day of races. And...spend the whole weekend in beautiful New Orleans! Mingle with the Supercross stars...Bob Hannah, Marty Tripes, Steve Wise...on the New Orleans Riverboat Cruise, Friday Night, May 2, 8 PM. Tickets $8.50. For Cruise and Supercross tickets mail to: New Orleans Superdome, P.O. Box 50488, New Orleans, LA 70125. Include $.50 per order handling charge. To charge tickets call: (504) 587-4110.

BEL-RAY · BOSCH Spark Plugs · SCOTT USA

☐ Pontiac

___ Saturday Tickets at $ _____

___ Sunday Tickets at $ _____

Total _____

☐ New Orleans

___ Saturday Tickets at $ _____

___ Sunday Tickets at $ _____

___ Cruise Tickets at $8.50 each

Total _____

Name _____

Address _____

City _____ State _____

Zip _____ Phone _____

M

THE FUTURE

continued from page 103

motorcycles with airbags and dummies and apparently sees in the results a way to extend their red tape. Imagine having your airbag go off in your face when you land your dual-purpose bike after a jump.

—GOVERNORS limiting top speed can't be too far behind 85-mph speedometers (now fitted to all new bikes). Harley-Davidson has proposed that the major manufacturers voluntarily limit horsepower or top speed, but doesn't seem to be finding much agreement from other firms.

—HELMET LAWS will make many more laps through state legislatures. The issue is whether making the individual protect himself is more important than personal freedom and choice.

—LICENSING PROCEDURES will get tougher for bikers, which is good. Better tests for bikers have recently been put into effect in California and other states (although the California written test still contains some glaring misconceptions). Unfortunately, car drivers, who are usually at fault in car/bike collisions, won't have any more trouble getting licenses and they won't get much more education on watching for bikes. So we'll continue to be run off the roads by drunks, by people who couldn't be troubled to look and by hit-and-run drivers, none of whom were properly educated and never should have had a license in the first place.

Ultimately, government presents the biggest challenge to motorcycling in the 1980s. Technology will give us a smooth ride over the other obstacles. *M*

THE WAR BIKES

continued from page 73

cious application of throttle to negotiate a particularly testy bit of ground. As a result the scouts can pass within a dozen yards of farmers in a field or a holiday group of picnickers in the woods totally undetected. They raise no suspicion of their approach, leave no trace of their passage.

The purring quiet of the double-muffled four-stroke engine, the skilled manipulation of throttle, the careful camouflage and Apache-like use of the lay of the land assure the motorcycle scouts a high degree of success in carrying out their reconnaissance undetected and at their own leisure. They can locate the enemy, identify his numbers and equipment, taking their own sweet time to make sure their info is accurate, then withdraw undetected. With such complete and trustworthy reports in its hands the Japanese army considers that should some unnamed northern enemy with a fondness for 130-proof vodka choose to barge in on their garden island and try to trod their independence under his hob-nailed cavalry boots, he would, to quote from the sayings of Jimmy Carter, get his backside whipped most soundly. *M*

ROAD TEST INDEX

To order back issues send $2 per issue (check or money order payable to Petersen Publishing Company) clearly stating the month and year of your request to:
PETERSEN PUBLISHING COMPANY
Back Issue Department
Customer Service
6725 Sunset Blvd.
Los Angeles, CA 90028

No compromise

Winston Lights didn't compromise on great taste to get low tar. Why should I?

Winston Lights taste good like a light cigarette should.

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

LIGHTS: 13 mg. "tar", 0.9 mg. nicotine, LIGHT 100's: 13 mg. "tar", 1.0 mg. nicotine, av. per cigarette, FTC Report MAY '78.

HOTLAP

WORLD SERIES ENDS IN ASHES

The hopes and efforts of Kenny Roberts for a rider-run World Series of roadracing have been dashed. The FIM simply flexed its political muscles and sent factories, track owners and riders scurrying back into the fold. We still don't have the tangle of reports and rumors straight, but apparently the FIM first threatened riders who participated in the World Series with exclusion from all FIM races and then informed track owners that any circuit hosting a World Series round would never get another FIM round. Since the World Series was more the promise of Kenny Roberts than a binding contract with guaranteed substance, riders committed to the Series (such as Wil Hartog) pulled out; federations such as the ACU sided with the parent body; finally, even Kel Carruthers reportedly elected to tune for Yamaha's FIM rider rather than stick with Kenny in the World Series. Things were so emotional in Europe during the final days that the Series' "director" allegedly choked a British journalist and hit him in the mouth, exclaiming that the Series might survive if the press "laid off of it." The brawl, if anything, hastened the Series' demise.

Roberts' own fate is uncertain. He vowed not to ride FIM events no matter what happened to the Series, and knowing his pride, it's unlikely that he'll relent and shoot for a third consecutive GP championship. Quite possibly he'll return to America and enter the nine scheduled Winston Pro roadraces. He might even ride shorttracks and TT Nationals where Yamahas are competitive, but it's unlikely that he'd again try Mile and half-mile ovals. After all it was Harley thunder that drove him to Europe in the first place. You can count on one thing. Wherever Kenny Roberts rides in America, we'll be there to watch.

SUPERCROSS LOSES TOYOTA SUPPORT

For the last several seasons Toyota has supplied a $100,000 Supercross point fund as well as highly valuable promotion and support at each race, but no more. The Japanese car company has switched its sponsorship to a national rodeo series instead, with no explanation given for the shift in support. Goodbye Toyota Tower. Goodbye Dawn Clark, the lovely Miss Toyota.

Dawn Clark, the "10" of motorcycle trophy girls, will be kissing cowboys instead of bikers this year.

ANOTHER BLOW TO THE FIM

Even though the World Series won't get off the ground, its impetus will deal some stinging blows to the FIM. Fifteen of the world's top roadracers, led as usual by Barry Sheene and Kenny Roberts, have reportedly signed a contract with a $100,000 penalty clause, not to ride the FIM Grands Prix in Belgium, Sweden, Venezuela, Czechoslovakia, Germany or Finland. They also formed a Professional Riders' Association to continue the fight for safer tracks and higher purses. Wil Hartog, who signed a contract with Suzuki specifying FIM competition, was one of the only major stars to refrain from signing the agreement.

ONE-BOINGER SUZUKI

If reports from abroad are correct, Suzuki has apparently caught one-shock fever. A new 250cc machine with a single rear shock is reportedly being readied for American Supercross races.

YAMAHA SIGNS KILLER OFF-ROAD RACE TEAM

In an apparent effort to corner the market on all types of racing, Yamaha has just hired nine top riders to compete in long-distance off-road races, national enduros and ISDT qualifiers. The blockbuster off-road squad consists of Larry Roeseler, Jack Johnson, Bruce Ogilvie, Jim Fishback and Chuck Miller (a very young and very fast up-and-comer). The time-keeping group will be Mike Hannon, Rick Munyon, Ron Ribolzi and Yamaha veteran John Fero.

The first five above will ride SCORE events such as Baja and Parker. Their main competition will come from Husky aces Brent Wallingsford and Scot Harden, who have dominated recent Baja races. Roeseler and Fishback will double in ISDT qualifiers. The enduro boys will have their hands full with Dick Burleson and Bob Popiel on Huskies, the strong Suzuki team anchored by Drew Smith and Jack Penton's Kawasaki kamikazies.

Bill Bell, Mike Bell's dad, left Honda to direct the Yamaha off-road program.

THE HIGH PRICE THAT PAYS FOR ITSELF. BMW.

The decade of the Lasting Value is here. The thoroughly custom-built product you pay more for because of the money it can save you from that moment on.

That supreme tourer, the BMW R100RT, above, and the agile BMW R65 next to it are built to stay valuable for a long time to come.

Endurance. Roadability and longevity are imperatives for riders who are as demanding as BMW's. These are qualities that are part of a carefully calculated chain of events built into every BMW.

In fact, a total of 3,453 separate steps go into the casting, welding, shaping and assembly of a BMW.

Unlike the machine-welding of the mass-produced bikes, every critical weld on every BMW frame is accomplished by hand—since that technique allows more control over the strength of these all-important stress points.

Economy. In an independent road test, the BMW R100RT, above left, delivered between 7 to 10 mpg's more than its two leading competitors.

Its touring range in the same test came out more than 100 miles greater than either of them.

A 1980 bonus: All the new BMW's now use unleaded regular gasoline.

Appreciation. As an investment, it's difficult to overestimate the worth—measured by resale value and an unsurpassed warranty—of a marque that retains, year after year, model by model, as high a proportion of its original purchase price as BMW.

A 1980 Cycle World survey shows a phenomenal 91 percent of the owners interviewed have confirmed they would buy another BMW. One ride and we think you'll appreciate their decision.

BMW. FOR ONE LONG SHINING MOMENT, STOP COMPROMISING.

See the 1980 line of BMW Motorcycles at your authorized BMW Dealer—listed in the Yellow Pages. For the complete BMW brochure write: Butler & Smith, Inc., Dept. 801, Norwood, N.J. 07648. Canada East: BMW Dist., Ltd., 801 Progress Ave., Scarborough, Ont. M1H 2X4. Canada West: BMW Dist. Co., 1650 W. 5th Ave., Vancouver, B.C. V6P 6G2. European Delivery Plan available.


Come to where the flavor is.
Come to Marlboro Country.
FILTER CIGARETTES
Marlboro
FILTER CIGARETTES
Marlboro
100's
Marlboro Red or Longhorn 100's—
you get a lot to like.
Kings: 17 mg "tar," 1.0 mg nicotine—
100's: 18 mg "tar," 1.1 mg nicotine av. per cigarette, FTC Report May '78
Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.